The Marine Climate Change Science (MCCS) Programme

3rd Grant Call Briefing (29th Nov 2024)

MCCS – Launch of 3ʳᵈ Grant Call

- The third grant call of the Marine Climate Change Science (MCCS) Programme has been launched as of **15 Nov 2024.**

- We invite interested researchers to submit suitable full proposals for potential funding support under **2 Call Topics:**

    1) Call Topic 9 – Assessing source-sink dynamics and restoration potential of blue carbon ecosystems
    2) Call Topic 10 – Building community resilience against sea-level rise – Understanding and enhancing the Singapore community's risk tolerance, knowledge and participation in adaptation measures through engagement measures

- Interested parties are strongly encouraged to form research teams that collaborate across public research institutes and the private sector (including industry), and support translation of research outcomes to real-world applications.

Schedule

2.00pm <u>Overview of MCCS 3ⁿᵈ Grant Call</u> – *by **MCCS Programme Office***
- Background of Marine Climate Change Science (MCCS) programme
- Grant Call conditions and eligibility criteria
- Review process
- Instruction for submission of proposals

2.25pm <u>Third-Party Risk Management Briefing</u> – *by **NParks***

2.40pm <u>Q&A on grant call processes</u> – *by **NParks and MCCS Programme Office***

Schedule

2:50pm — Call Topic 9 – *by **NParks***
"Assessing source-sink dynamics and restoration potential of blue carbon ecosystem"

3.10pm — Call Topic 10 – *by **CLC***
"Building community resilience against sea-level rise – Understanding and enhancing the Singapore community's risk tolerance, knowledge and participation in adaptation measures through engagement measures"

3.30pm — Final Q&A

Note: A short Q&A timeslot will be allocated during the presentation of each MCCS project and Call Topic. This final Q&A session will be dedicated for any additional questions that have not yet been addressed earlier.

4:00pm — End of Programme

# Overview of the Marine Climate Change Science (MCCS) programme

The Marine Climate Change Science (MCCS) Programme

- New NRF-funded Funding Initiative (FI) totaling $25.0M to support a 5-year programme under the Urban Solutions and Sustainability (USS) domain under RIE2025.
  - Led by NParks as Implementing Agency (IA)

- Multi-stakeholder research programme which seeks to advance the core sciences of marine climate change, and develop solutions to help address the challenges faced by our coastal and marine environment arising from climate change
  - Builds on the foundational science developed under past/ongoing programmes, including the Marine Science R&D Programme (MSRDP) (2016-2021)
  - Developed in response to the current challenge of future-proofing Singapore's marine environment, in the face of climate change
  - Part of overall efforts to transform Singapore into a City in Nature, as well as contribute towards a nationwide effort to build climate resilience under the Singapore Green Plan 2030.

- Entails important baseline and applied marine climate change research, to:
  - Address gaps in the climate science research landscape for the marine domain
  - Understand responses of marine ecosystems to increasing environmental and climate change pressures
  - Enable translatable actions that public/private practitioners – in Singapore and elsewhere – can adopt, apply and implement

MCCS – Objectives

The MCCS programme aims to serve as a **national focal point** for **multi-disciplinary marine climate change research,** that will:

1. **Address current national needs and knowledge gaps** identified by agencies through core research verticals and enabling horizontals

2. **Leverage on synergies** across local IHLs, agencies and industry to strengthen and support national efforts to mitigate and manage climate change challenges

3. Create scientific insights and evidence to support the creation of **evidence-based interventions and solutions**

Core domains and enablers of the MCCS programme

MCCS – Core Research Verticals
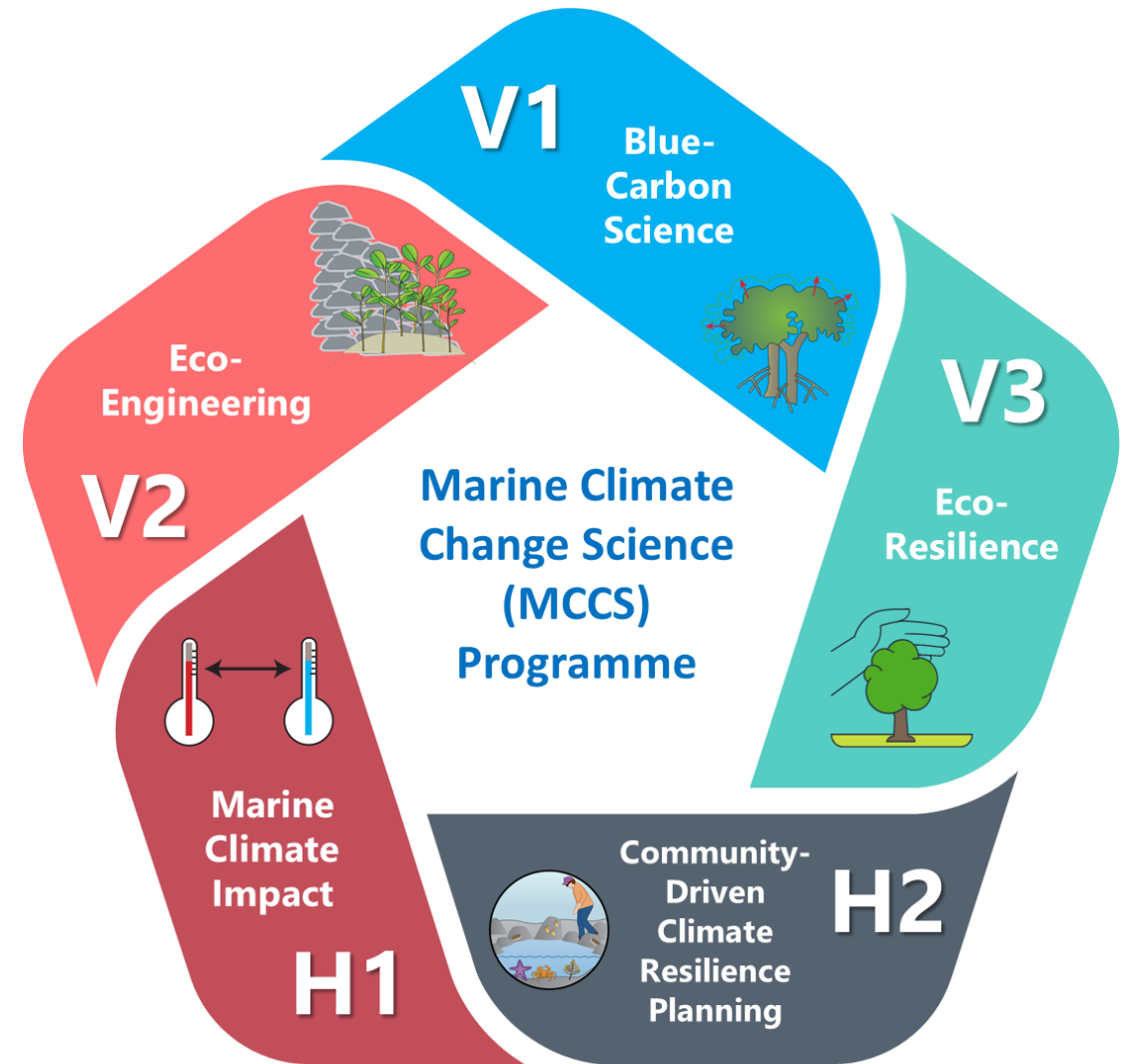
V1 Blue Carbon Science

- Build foundational blue-carbon science in Singapore

- Assess blue carbon opportunities in Singapore

- Reduce Singapore's carbon footprint while mitigating climate change effects on coastal water quality, habitats and infrastructure

Core domains and enablers of the MCCS programme

MCCS – Core Research Verticals
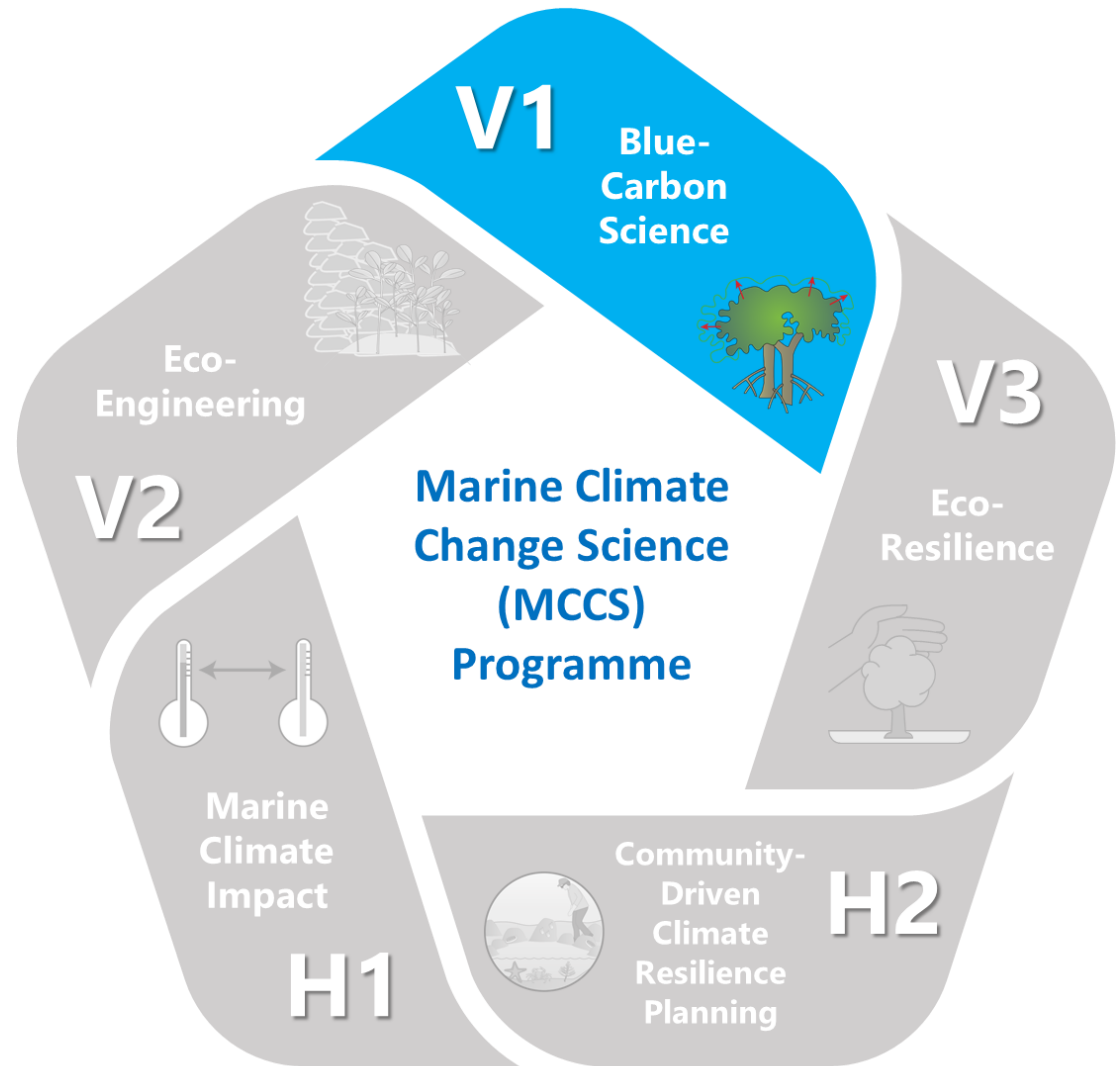
V2 Eco-Engineering

- Align engineering with nature-based solutions

- Mitigate sea-level rise, extreme storm events and flood protection, while enhancing and restoring marine environments and creating new habitats

- Provide sound basis for the sustainable development of Singapore's islands and coasts

Core domains and enablers of the MCCS programme

MCCS – Core Research Verticals
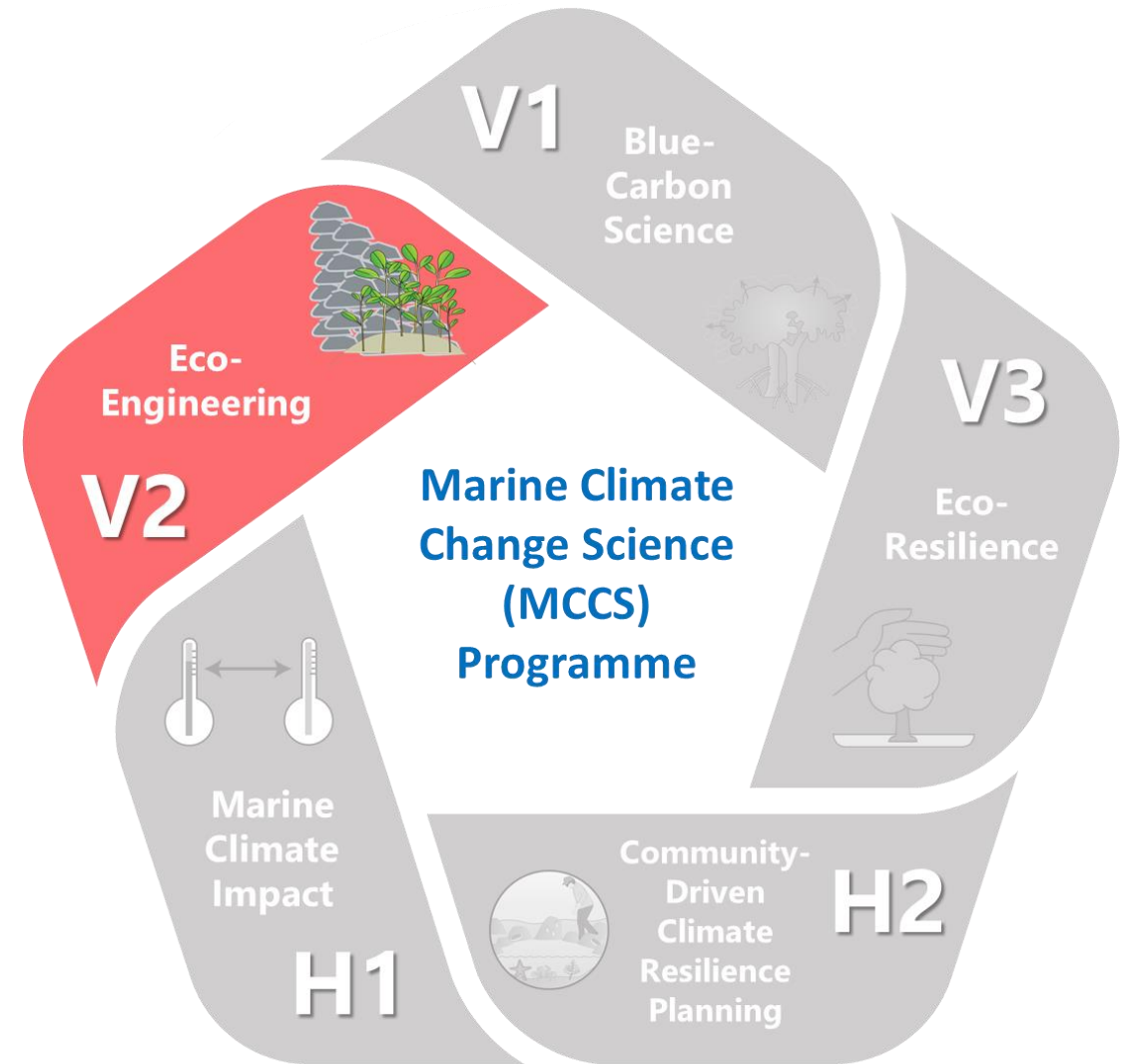
V3 Ecological Resilience

- Research to future-proof our coastal and marine ecosystems against increasing pressures from anthropogenic and climate change drivers

- Safeguard our natural marine capital through science-based management
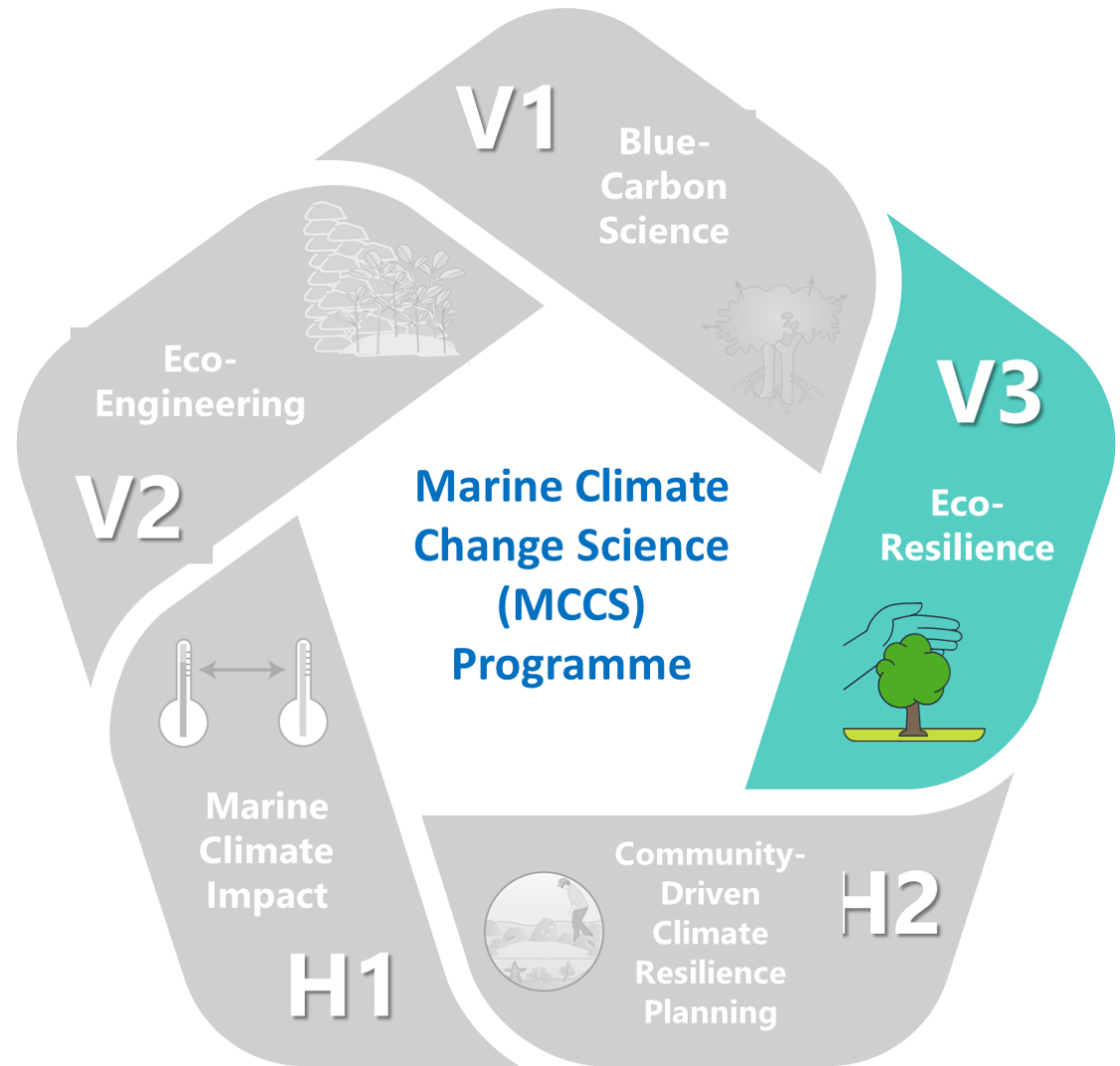
Core domains and enablers of the MCCS programme

H1 Marine Climate Impact

- Develop down-scaled global models for local climate change indicators relevant to the marine environment

- Benchmark MCCS research against relevant climate scenario projections and timescale horizons

Core domains and enablers of the MCCS programme

MCCS – Enabling Horizontals
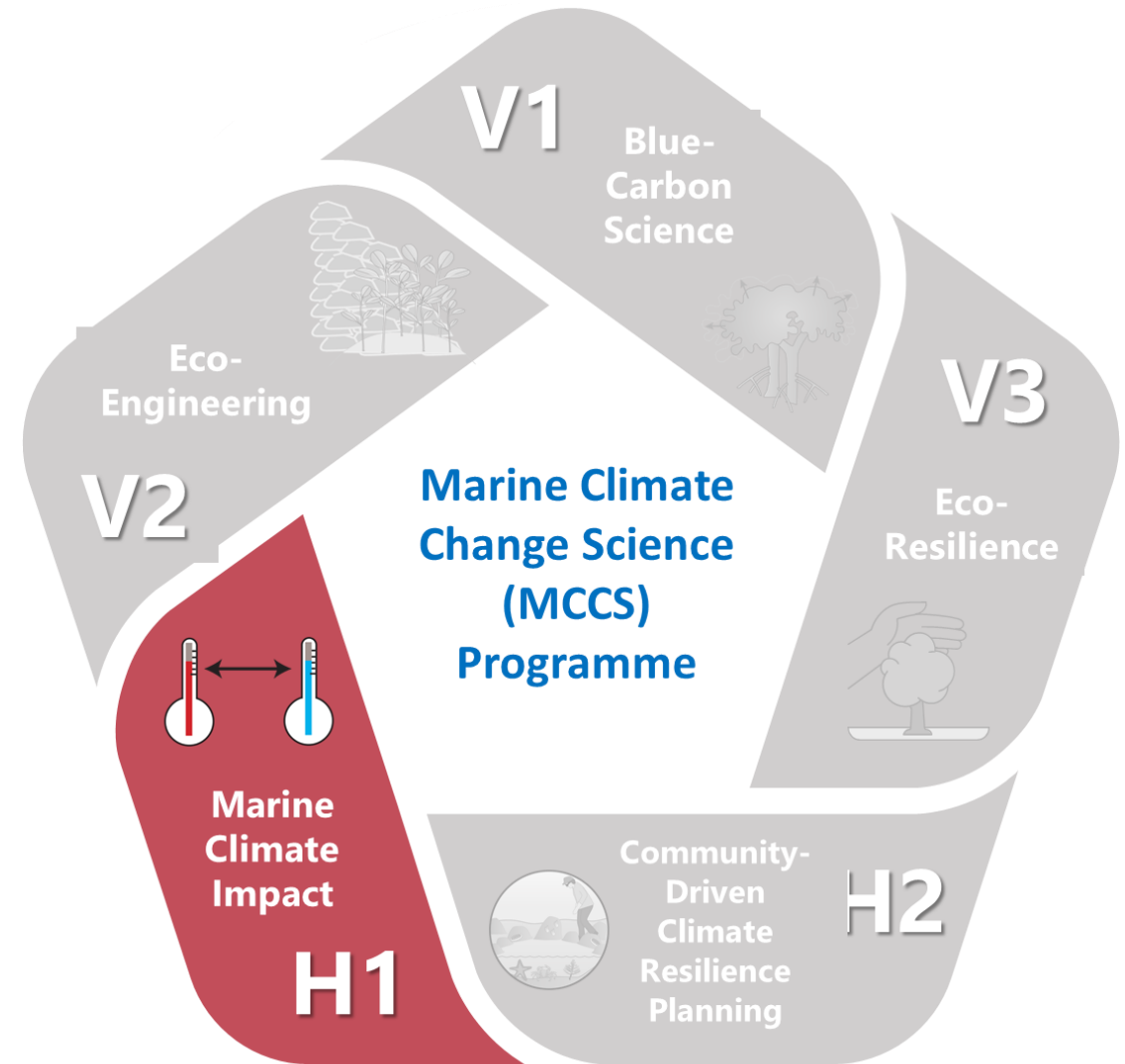
H2 Community-Driven Climate Resilience Planning

- Harness social sciences to add important methods, perspectives, and data to climate change mitigation and adaptation efforts
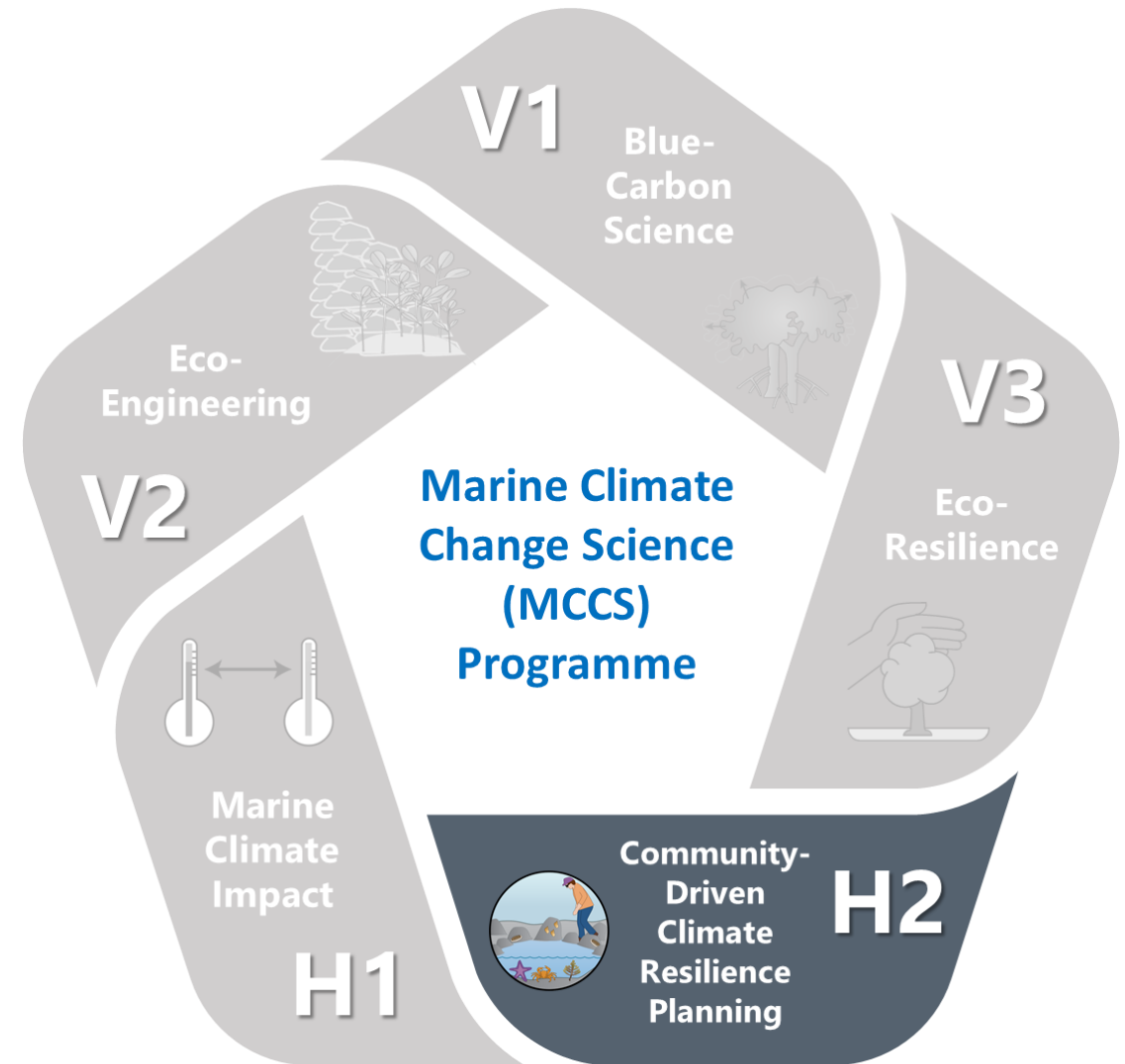
Core domains and enablers of the MCCS programme

Grant Call Eligibility & Funding Criteria

Grant Call Eligibility

- All Singapore-based public research institutes (RIs) (e.g., Institutions of Higher Learning (IHLs) and A*STAR RIs), companies, company-affiliated research laboratories or institutions and not-for-profit entities are eligible to participate in the call.

- The Lead PI who leads the Research must be based in Singapore. Collaboration with Singapore-based and foreign organisations and experts, in the capacity of Co-Investigator (Co-I) or as Collaborator, is allowed.

- All funding awarded must be used to carry out the research work in Singapore, unless expressly approved by the grantor.

- Grant applicants are strongly encouraged to collaborate with industry partners to develop innovative solutions that can address the call objectives and demonstrate strong potential for real world application within and beyond Singapore.

- R&D proposals already funded by other government agencies will not be considered. R&D proposals with similar scope, which are currently under evaluation by other funding initiatives, will not be considered until the results from the other funding initiatives are finalised. Lead PIs, Co Is, and Collaborators will need to declare other funding sources and participation in other funding initiatives during application.

Grant Call Eligibility

Additional notes for private sector entities

- Funding for private sector entities would be conditional on collaboration with a public research performer for:
  - Research projects with a total project budget more than S$500,000;
  - Test-bedding/demonstration/scale-up projects with a total project budget more than S$2.0mil.

- For projects funding non-Singaporean entities (i.e., companies registered in Singapore with less than 30% local shareholding, determined by the ultimate individual ownership), a Singapore Technology Licensing Office (STLO) must be appointed regardless of the involvement of public research performer.

Funding Criteria

Direct Costs*

- Supportable direct costs are incremental cost required to execute the programme; can be classified into the following cost categories:-
  - Expenditure on manpower (EOM);
  - Equipment;
  - Other Operating Expenses (OOE)**; and
  - Overseas Travel

Indirect Costs (i.e. "overheads")

- Costs that are incurred for common or joint objectives and therefore cannot be identified readily and specifically with a particular sponsored research project, but;
- Contribute to the ability of the Institutions to support such research projects (e.g. providing research space, research administration and utilities, and not through the actual performance of activities under the sponsored projects).

Please refer to the Annex C of the Grant Call info sheets for the list of non-fundable direct costs of research.

*** According to National Supercomputing Centre (NSCC) Singapore policies, research projects will be charged for access to NSCC's High Performance Computing (HPC) resources. Applicants are required to budget for their compute requirements and associated costs in grant applications, where necessary.*

Funding Criteria

Singapore-based IHLs/public research institutes	• Lead PI or Co-I will qualify for:
	   • **[Direct costs] 100%** of the approved qualifying direct costs of a project;
	   • **[Indirect costs] 30%** of the total qualifying approved direct costs of a project.

Singapore-based private sector entities (incl. not-for-profit organisations)	• Lead PI or Co-I will qualify for:
	   • **[Direct costs] Up to 70%** of the approved qualifying direct costs of a project
	      • 30% for all non-Singapore entities (incl. non-Singapore not-for-profits);
	      • 50% for Singapore Large Local Enterprises (LLEs);
	      • 70% for Singapore Small Medium Enterprises (SMEs), start-ups and not-for-profits.

Overseas organisations	• <u>**Not**</u> permitted to receive, directly or indirectly, any part of the funding, whether in cash or in the form of assets acquired using the funding or otherwise, unless expressly approved by the grantor. • Exception: **Travel expenses** for Visiting Professors/Experts (e.g., overseas based Co Is and Collaborators) **to come over to Singapore**, which should be identified and budgeted for upfront in the Other Operating Expenses vote to be incurred by the Host Institution.

Funding Criteria

Additional notes on Collaborators

- Collaborators are **<u>not</u>** permitted to receive, directly or indirectly, any part of the funding, whether in cash or in the form of assets acquired using the funding or otherwise unless expressly approved by the grantor.

Additional notes on funded assets

- All assets acquired using the funding must be located in Singapore and maintained within the control of the grantees.

Please refer to the Grant Call info sheet for detailed information on the guidelines for the grant call.

Review Process

Review Process – at a glance

Preliminary Compliance/Eligibility Check

Project Evaluation (Multi-stage)

Final Compliance/Eligibility Check

Project Award
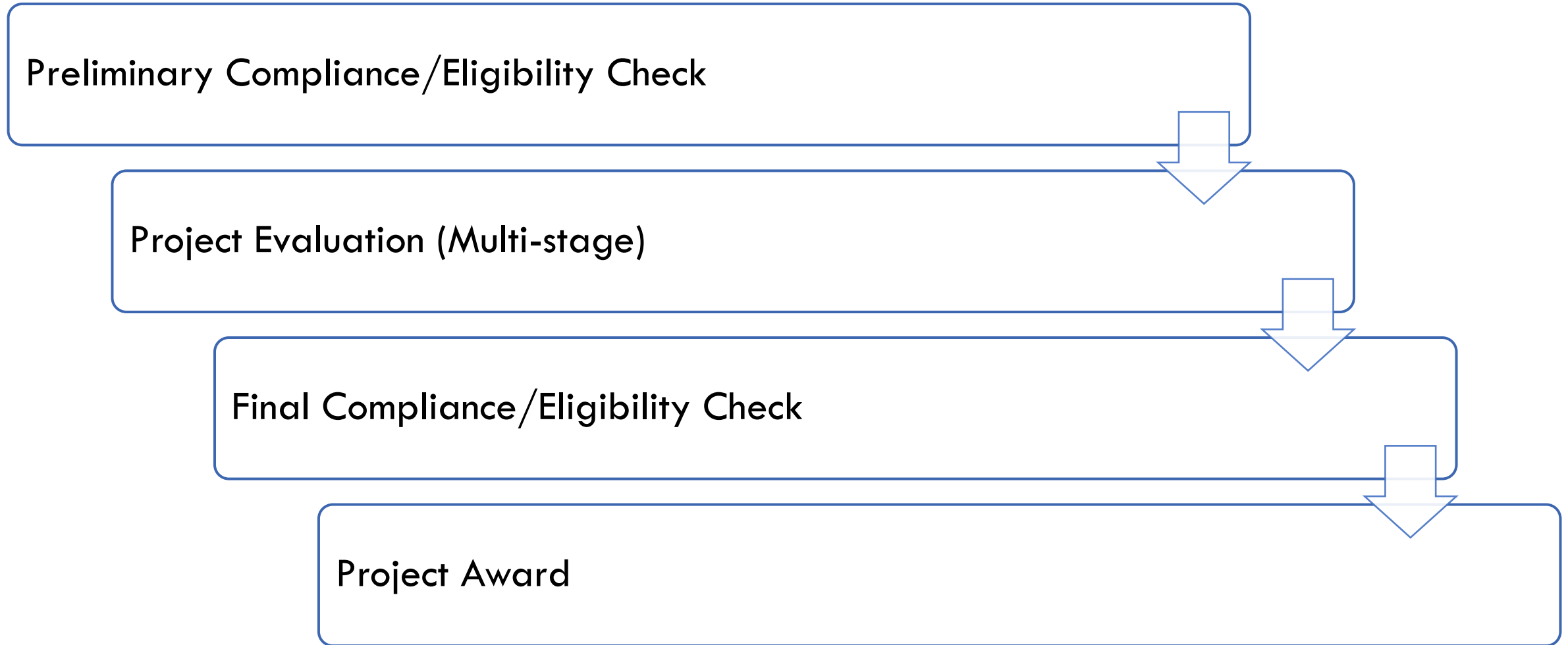
Evaluation of Proposals

Evaluation of proposals will include:

1. Technical Peer Review
Proposals will be subject to a round of technical peer review by domain experts* with relevant expertise, to ensure excellent science in proposals.

2. Project Evaluation Panel
Shortlisted applicants will be invited to present their proposals to a Project Evaluation Panel, consisting of relevant agency representatives, the Programme and Technical Directors, and other external experts (where relevant).

Successful applicants will be informed by the MCCS Programme Office on the award of the grant. The MCCS Programme Office's decision on project and funding support will be final.

Research teams applying for the grant call are invited to recommend potential suitable peer reviewers for the MCCS Programme Office's consideration, as part of the proposal submission process. The final decision on the peer reviewers will be decided by the Programme Office.

Evaluation Criteria

Criteria

Potential Contribution to MCCS Objectives
- Relevance of proposed research in contributing to objectives/targets stated for the MCCS Call Topic.

Potential for Breakthrough and Innovation
- Quality and significance of proposed research, including value for money, and the potential for breakthrough/innovation to advance knowledge and understanding within its own field or across different fields.

Potential for Application and Deployment in Singapore and Commercialisation/Export
- Potential for application of research outcomes in Singapore by a public agency and potential for solutions to be replicated in Singapore beyond a single site/project.
- Feasibility for commercialisation/ export in areas where Singapore has a competitive advantage.

Execution Strength and Technical Competency of Research Team
- Quality of plans for execution and delivery of the research programme and goals, including the appropriateness of the proposed milestones and deliverables (specific to evaluation of full proposal applications).
- Quality, significance, and relevance of the recent research record of the Lead PI and Co-Is and the strength of the applicant group, including likely synergy in delivering research and potential for international leadership.

Instructions for Submissions of Proposals

Overview of Timeline

FOR APPLICANTS & INTERESTED PARTIES (SGT, UTC +08:00)

Grant Call Opens (for 16 weeks)	15 November 2024, 10.00am
MCCS Symposium & Briefing for 3rd Grant Call	29 November 2024, 9.00am
Grant Call Closes (Proposal Submission Deadline)	7 March 2025, 2.00pm

FOR SHORTLISTED APPLICANTS ONLY

Notification of shortlisted applicants	Q2 2025
Presentation to Project Evaluation Panel (2 or 3 days)	Q2-Q3 2025

FOR SUCCESSFUL AWARDEEES ONLY

Approval and Letter of Award	Q4 2025 onwards*

* Timings are indicative; shortlisted/successful applicants will be notified accordingly.

Grant Call Details

Grant call information and relevant documents at:
- [MCCS 3rd Grant Call website](#)
- [IGMS](#)

Application _only_ through IGMS:
- See section on "Application Guidelines". All funded proposals should follow the prevailing Terms and Conditions of Grant and NR Fund Guide.

- The application will only be considered valid if the submission of the full proposal is completed in IGMS, including endorsement by the Director of Research (also in IGMS) by the proposal submission deadline (**7 March 2025, 2.00pm**).
  - A copy of the application should also be sent via email to the MCCS Programme Office (MCCS@nparks.gov.sg) after this.

- E-mail or walk-in applications will not be accepted.

- Late submissions will not be considered. Incomplete submissions may also be rejected. Applicants are advised not to submit their application at the last minute in case of technical errors with the IGMS website.

- The following slides outline steps for "Using IGMS" and "Full Proposal Submission".

Application Guidelines

Please choose one of the options below. It will direct you to the login type based on your choice.

Host Institution Users

- Principal Investigator
- HI Administrator
- Office of Research/ Director of Research
- HI Finance/ HI Human Resource
- Data Administrator/ HI Audit

Individual Users

- Singapore-based Applicants
- Overseas-based Applicants
  Eg. NRF Fellowship Applicants

Reviewers

- Singapore-based Reviewers
- Overseas-based Reviewers

Using IGMS:

Key details for first time users

- Under the landing page, select the **"Host Institution Users"** option. This option will lead you to "Login with Singpass (Logging in as Business User)". Login or register using your Singpass.
- **Authorise ORCID ID** before any grant application.
- Fill up mandatory fields.
- Update user profile.

Application Guidelines

Full Proposal Submission:
- Login to the system using the "Host Institution Users" option and subsequently, via "Login with Singpass (Logging in as Business User").
- Click on grant call topic of interest under "Open Opportunities" and click "Apply".

For detailed steps, please refer to:
- [Quick guide for Potential Applicants](#); and
- [Help guide for Potential Applicants](#)

(also available on the IGMS "Training Guides" page:
https://www.researchgrant.gov.sg/Pages/TrainingGuides.aspx)

Contact Information

- For **general information,** please refer to the Grant Call FAQs document in either:
    - [MCCS 3rd Grant Call website](#)
    - Under "Related Documents" under the grant call topic of interest on [IGMS](#)

- For transparency, no verbal enquiries will be entertained. However, if you require clarification, please email the MCCS Programme Office at MCCS@nparks.gov.sg. Answers to all received queries will also be reflected in the Grant Call FAQs document (see above), which will be updated periodically to ensure that all applicants have equal access to additional information.

- For any queries on the **use of IGMS**, please contact the IGMS helpdesk.
    Tel No: (65) 6556 8807 or (65) 6556 6971
    E-mail: helpdesk@researchgrant.gov.sg

Q&A on Grant Call Processes

4. Call Topics under MCCS 3rd Grant Call

Assessing source-sink dynamics and restoration potential of blue carbon ecosystems

Research Theme(s):
1. Blue Carbon
2. Ecological Resilience

Estimated Budget: S$ 3 million
Estimated Duration of Project: 4 years
Lead Agency: NParks

Project Details:
Assessing source-sink dynamics and restoration potential of blue carbon ecosystems

Rationale for Project	Blue carbon ecosystems play a crucial role in sequestering carbon dioxide from the atmosphere. Key **blue carbon sinks store both autochthonous and allochthonous carbon** originating from within and outside their ecosystems respectively. While certain marine ecosystems are well-recognized as key blue carbon sinks (e.g. mangroves and seagrass meadows), the processes that sustain and maintain them are less well known. Therefore, this project seeks to **advance understanding of the ecological interdependencies of different coastal and marine habitats and their contribution to overall carbon source-sink relationships**. This can include the transport of carbon between different habitats and the identification of sources of allochthonous carbon (e.g. macroalgae, terrestrial carbon)
	This project aims to **build foundational knowledge in modelling carbon fluxes and stocks** between key ecosystems in Singapore. Building on the project awarded under MCCS Grant Call 1 (BlueCarbonSG) that seeks to quantify Singapore's Blue Carbon baseline, this project will further investigate blue carbon cycling and sequestration processes and **develop <u>novel methods</u> to accurately quantify allochthonous and autochthonous carbon sources in key ecosystems (e.g. environmental DNA, remote sensing).**
	This project will then model how these processes will be impacted by changes to Singapore's climate and environment, under various Shared Socioeconomic Pathways (SSPs), and develop recommendations to maintain and enhance blue carbon outcomes under these various scenarios. This will allow practitioners to **accurately conserve and manage coastal and marine ecosystems for positive blue carbon outcomes.**

Project Details:
Assessing source-sink dynamics and restoration potential of blue carbon ecosystems

Key Research Questions	

	1. How can we accurately **quantify blue carbon source-sink dynamics** between and across Singapore's habitats?
	     a) What are the key **fluxes** in blue carbon cycling processes and sequestration between habitats?
	     b) What are the **ecological interdependencies** of different habitats within coastal ecosystems and how do they contribute to overall carbon source-sink relationships?
	     c) What are the other habitats outside of mangroves, seagrasses and mudflats that contribute to the carbon source-sink dynamics?
	
	 2. How will the dynamics in (1) (e.g., transportation, transformation, connectivity, cycling) be impacted by **future climate and/or environmental** scenarios?
	
	 3. How can restoration measures **improve blue carbon sequestration outcomes**?

Project Details:
Assessing source-sink dynamics and restoration potential of blue carbon ecosystems

Research Objectives	
	1. To develop **novel methods** to quantify the autochthonous and allochthonous contributions of blue carbon in blue carbon sinks.
	2. To develop models of **carbon cycling and sequestration processes** between known blue carbon ecosystems (e.g., mangroves and seagrasses).
	3. To model blue carbon cycling and sequestration processes under **future climate and/or environmental scenarios** and predict **how this will affect blue carbon stocks.**
	4. To propose nature-based solutions to **enhance blue carbon sequestration and storage** along Singapore's Coastlines, including natural habitats and/or coastal developments.
	Projects are encouraged to further build upon the above-mentioned objectives, and/or propose additional research objectives. Such projects will be considered favourably, in accordance with their contribution towards greater scientific novelty and excellence

Project Details:
Assessing source-sink dynamics and restoration potential of blue carbon ecosystems

Technical Deliverables	
	1. Development of methods to quantify carbon cycling and sequestration process between blue carbon habitats. This should include the quantification of autochthonous and allochthonous blue carbon sources.
	2. Creation of models to predict how blue carbon cycling and sequestration processes will respond under future climate scenarios.
	3. Recommendations for nature-based solutions to increase the sequestration and storage of blue carbon habitats in natural and developed coastlines, with test-bedding where relevant.
	Projects are encouraged to further build upon the above-mentioned deliverables, and/or propose additional deliverables. Such projects will be considered favourably, in accordance with their contribution towards greater scientific novelty and excellence

Project Details:
Assessing source-sink dynamics and restoration potential of blue carbon ecosystems

Impact Outcomes	*In relation to the key programme-level deliverables of this vertical, this project should look towards contributing to the following impact outcomes:*
	a) The understanding of fluxes and processes of blue carbon ecosystems will advance foundational understanding of blue carbon science, allowing blue carbon habitats to develop and serve as nature-based climate change mitigation solutions.
	b) The development of nature-based solutions to increase blue carbon sequestration and storage can be translated to regional policy and investment decisions on blue carbon financing opportunities in Singapore and Southeast Asia.
	PIs are required to engage with government agencies, and industry partners (where applicable and relevant), to discuss the translational potential and policy relevance of their research. As part of the proposal, PIs are to elaborate on how they intend to sufficiently engage agencies and/or industry partners, in order to develop plans for translating the research outcomes into policy, operations, commercial solutions, etc.

Project Details:
Assessing source-sink dynamics and restoration potential of blue carbon ecosystems

Proposed Study/ Pilot Testbed Site(s)	*Proposed projects may consider the following sites in Singapore for study and pilot test-bedding, including, but not limited to:* a) *Sungei Buloh Wetland Reserve and Mandai Mangrove and Mudflats, Pulau Ubin, Changi Creek, Coney Island, Berlayer Creek, Labrador Nature Reserve, Sentosa, and the southern islands of Kusu, St John's, Lazarus, Sister's, Hantu and Semakau.*

Project Details:
Assessing source-sink dynamics and restoration potential of blue carbon ecosystems

Role	Agency
Project Lead	NParks
Member	

Call Topic 9 – Q&A

3rd Grant Call: Topic 10
MCCS_H2_2024-3_T10

Horizontal 2 **(Community-Driven Climate Resilience Planning)**

Building community resilience against sea-level rise –
Understanding and enhancing the Singapore community's risk tolerance, knowledge and participation in adaptation measures through engagement measures

Estimated Budget: S$ 2 million
Estimated Duration of Project: 2 years
Lead Agency: CLC and NParks
Collaborating Agency: PUB, HDB and SDC

Project Details:
Building community resilience against sea-level rise

Rationale for Project	The growing uncertainty of the extent and risks of climate change-associated sea level rise is further challenged by space and resource constraints of mitigation and adaptation strategies, that often involve hard infrastructure. In tandem with infrastructural changes, it is hence imperative at this juncture to look to strengthening community resilience towards sea level rise challenges and mitigation measures.

Within communities there are variegated perceptions of sea level rise, bringing about differentiated coping mechanisms and possible engagement strategies. One means of informing engagement strategies that build community resilience would be the study of social archetypes. Archetype analysis groups people according to traits, behaviours, needs, or cultural factors. These groups allow for analysis of impacts of interventions on different members of society. The results can help identify the different stressors and challenges within different groups, enabling the formation of targeted strategies that can better serve different groups.

Research has been done on how residents view sea level rise and the associated drivers, and views and knowledge of transient floodable areas and willingness to pay for climate adaptation measures. Previous studies have found that members of the public often do not see themselves as being personally at risk of SLR and climate change, and knowledge of government actions on coastal defence in the general public is low. Also, no significant correlation was found between climate change related threat perceptions and area of residence (i.e., coastal vs inland respondents), age or educational qualification. However, there are the following research gaps in community-related marine coastal climate solutions, particularly in understanding public's future (10-15 years) perceptions and developing variegated engagement strategies for different population types. |

Project Details:
Building community resilience against sea-level rise

Key Research Questions	

1. To establish a baseline for the study: What is the local community's[1] perception and risk tolerance towards impacts and risks arising from sea level rise and the measures to adapt[2] to such impacts? What is the local community's willingness to adopt measures to adapt to sea level rise? What are the factors that shape the local community's perceptions, risk tolerance and willingness to adopt measures towards the risks arising from sea level rise? Study sample should cover Singaporeans and PRs living near and far from coastal regions.

2. How could archetypes of attitudes be mapped to the corresponding demographics? How could archetypes be mapped spatially?

3. What engagement strategies can be designed to improve local community's knowledge and risk readiness towards sea level rise impacts, and willingness to adopt measures towards sea level rise? Bi-directional engagement methods could be considered.

4. How might risk tolerance towards sea level rise change in the next 15 years, and how may the proposed engagement strategies have to change to adapt to such shifts? How might results on future communities be validated?

1 Local community defined as residents of selected study area in Singapore, including businesses and business owners.
2 Measures to adapt to sea level rise include seawalls, allowing temporary flooding, nature-based solutions, and participation in nature-related activities to improve environmental stewardship. Nature-based solutions include mangrove planting, and hybrid seawalls (e.g. Artificial reefs)

Project Details:
Building community resilience against sea-level rise

Research Objectives	1. Provide baseline levels of Singapore local community's: • **Understanding** of **climate change-associated sea level rise and its impacts** on Singapore's land use, built assets and natural ecosystem, and how it would affect them personally. • Perception and **tolerance towards these climate change impacts.** • Awareness and **acceptance** towards **adaptation measures,** including the options available and their associated costs and trade-offs. • Willingness to **adopt measures to adapt to** sea-level rise. Individual willingness to adopt measures need to be analysed as well. 2. Guided by well-established behavioural models and quantitative methods: **Identify and measure potential predictors** (e.g., based on socio-economic, geographical factors, knowledge, motivations, opportunities) that are associated with the patterns/findings documented in (1) • Demonstrate how these drivers could help analyse how future communities view sea level rise adaptation measures. To also demonstrate how results on future communities could be validated. • Show how archetypes of attitudes be mapped to the corresponding demographic population segments • Show how could archetypes be mapped spatially

Project Details:
Building community resilience against sea-level rise

Research Objectives (continued)	3. **Recommend community engagement strategies** that address the drivers, enablers, and barriers identified, to **enhance interest and adoption of measures to adapt to sea-level rise** as an individual or as part of a community, and improve knowledge and risk readiness towards sea level rise impacts. *Projects are encouraged to further build upon the above-mentioned objectives, and/or propose additional research objectives. Such projects will be considered favourably, in accordance with their contribution towards greater scientific novelty and excellence*

Project Details:
Building community resilience against sea-level rise

Technical Deliverables	1. Document baseline levels of Singapore community's (including business and commercial entities):
	
	   a) Understanding of climate change-associated sea level rise and its impacts on Singapore's land use, built assets, and natural ecosystem, and how it would affect them personally.
	   b) Risk perception and risk tolerance towards these impacts.
	   c) Awareness and acceptance towards adaptation measures.
	   d) Willingness in adopting sea-level rise adaptation actions
	   e) Should there be distinct groups that can characterise the spectrum of perceptions and behaviours, researchers may communicate this finding through the use of archetypes as the presentation of archetypes may aid the design of more targeted engagement strategies.
	   f) Document how these archetypes could shift in proportion in the future and suggest how communications strategies should change.
	   g) Propose how these archetypes could be mapped demographically and spatially both present and future
	   h) Show how results pertaining to future communities could be validated

Project Details:
Building community resilience against sea-level rise

| Technical Deliverables (continued) | 2. Profile the drivers, barriers, and enablers that if addressed, can build:
   a) knowledge of risks associated with sea-level rise (e.g., coastal flooding, asset damages, biodiversity/ecosystem loss).
   b) risk preparedness and adaptation response to these impacts.
   c) awareness and acceptance of sea level rise adaptation measures
   d) analyse how future communities view sea level rise adaptation measures

3. In consultation with agencies, design engagement strategies that could lower the barriers and enhance:
   a) Understanding of risks and measures associated with sea-level rise, including coastal flooding, asset damages and recover, biodiversity and ecosystem loss.
   b) Risk preparedness and acceptance towards sea level rise mitigation measures.

Projects are encouraged to further build upon the above-mentioned deliverables, and/or propose additional deliverables. Such projects will be considered favourably, in accordance with their contribution towards greater scientific novelty and excellence |

Project Details:
Building community resilience against sea-level rise

Impact Outcomes	*In relation to the key programme-level deliverables of this horizontal, this project should look towards contributing to the following impact outcomes:*
	1. The profiling drivers, and evidence-based recommendations from the project would: Enable community understanding, calibrate expectations, acceptance, support and involvement of solutions derived from the **MCCS Core Research Verticals**, given that: • Some of these solutions may not provide immediate/direct community benefits. Hence, having an understanding of future communities' perceptions towards adaptation measures could help agencies anticipate issues and determine the course of engagement programs. • Novel innovations may experience greater public uncertainty or misinformation. Hence, planning agencies need to understand the community's perceptions towards nature-based solutions & resilient biodiversity. • Some of these solutions could benefit from individuals and the community's actions to boost their effectiveness (e.g., community mangrove planting and care) 2. Feed into research Impacts to the **City in Nature Pillar of CoT R&I** • Enhance community knowledge, risk understanding, and willingness to accept sea-level rise adaptation measures, especially in those implemented at urban residential and public spaces. • Increase government agencies and institutes of higher learning local social research and engagement talent pool.

Project Details:
Building community resilience against sea-level rise

Role	Agency
Project Lead(s)	CLC, NParks
Member	PUB, HDB, SDC

Call Topic 10 – Q&A

Final Q&A

Thank You