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Governing the Coast

Vulnerability, Adaptation and Transformation

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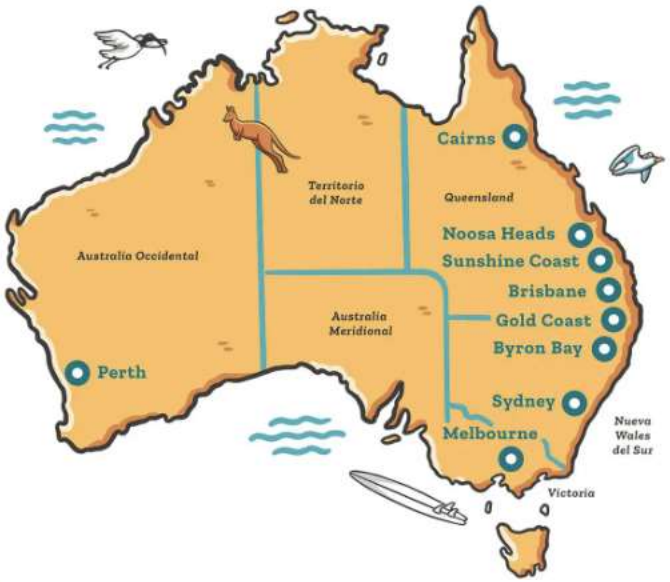

Dr Carmen Elrick-Barr
Senior Research Fellow, University of the Sunshine Coast
Australian Research Council Discovery Early Career Research Fellow
Chair, Western Australian Coastal and Marine Network (WACMN)
State Rep, West Australian Chapter, Australian Coastal Society (ACS)
Adjunct Senior Research Fellow, University of Western Australia
Board member, *Ocean and Coastal Management*
Future Earth Coasts Fellow

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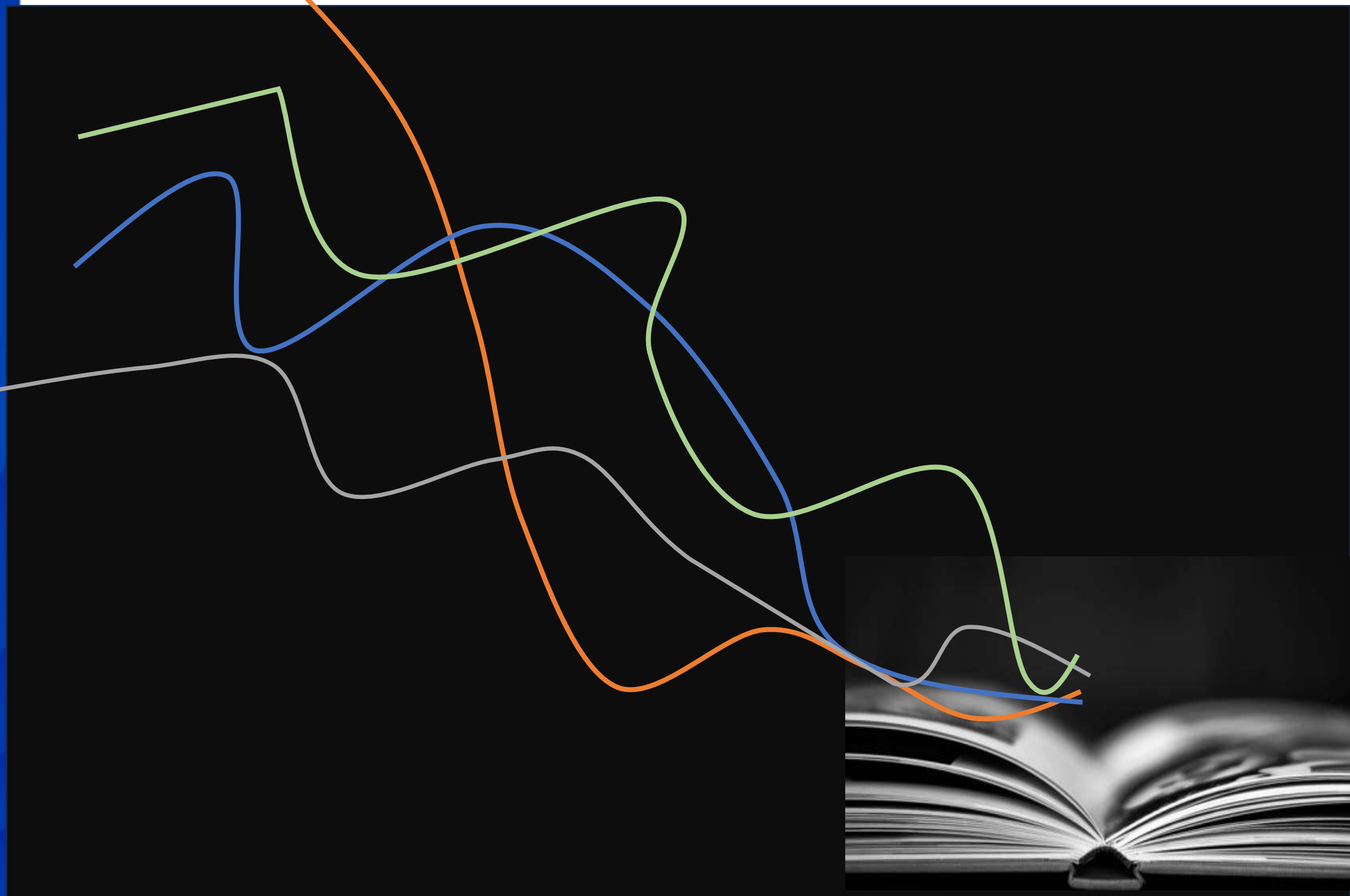

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What is coastal sustainability?

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Better = Care

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Coastal governr

Our goal is to improve the li
coastal areas through bett

Embracing vulnerabil

The condition of the Australian coast is d
global environmental change and urban
integrated coastal management efforts.

We need to urgently change how we thin
environments, exploring new and better

Research focus

Our research seeks to:

1. **Identify** the types of social-ecologic
2. **Critically analyse** how vulnerability
coastal governance approaches
3. **Assess** the implications for coastal
vulnerability and change

Dr Carmen Elrick-Barr
Senior Research Fellow | School of Law and Society
celrick@usc.edu.au

Carmen applies expertise in climate change vulnerability assessment and adaptation planning to lead work on existing coastal governance arrangements and coastal vulnerability.

Emeritus Professor Tim Smith
tsmith5@usc.edu.au

Professor Smith is the overall project lead.

Associate Professor Dana Thomsen
dthomsen@usc.edu.au

Professor Thomsen is an expert in sustainability communication and advocacy and leading work on coastal governance innovations.

- Professor Ryan Plummer - Director of the Environmental Sustainability Research Centre (ESRC) Brock University, where his program of research concerns the governance of social-ecological systems.
- Assistant Professor Jessica Blythe - human geographer with research expertise in ocean governance, sustainable transformations and climate change adaptation.
- Professor Iain White - environmental planner whose interdisciplinary research explores institutional change with regard to new forms of spatial development and climate change adaptation.
- Associate Professor Daniel Henstra - political scientist who studies the governance of complex policy areas such as climate change adaptation, emergency management and flood risk management.

PhD Students

- **Dr Miguel Frohlich** - an environmental planner and lawyer whose research explores how legal frameworks for coastal management can influence the adoption of adaptive management.
- **Dr Jonathan Raikes** - applies his experience working on international disaster risk reduction strategies to investigate the intersection of governance for disaster risk reduction and sustainable development goals in Australia and Canada.
- **Pippa Huddleston** - an environmental planner who will draw on her practical experience in infrastructure planning to compare governance tools in coastal infrastructure retreat in Australia, New Zealand and the Pacific.
- **Angela Mallette** - applies her experience working in municipal climate change adaptation planning to explore opportunities for learning through Canadian and Australian case studies.

https://usc.edu.au

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Western Australian Coastal & Marine Network

Dr Ailbhe Travers: Network Manager
Vice-Chair: Kate Sputore

https://wacmn.net/

WACMN IS A STATE-WIDE MEMBERSHIP NETWORK FOR COASTAL & MARINE STEWARDS

We connect members from across community, industry, research and government as a cross-sector stewardship network that reaches from the north coast to the south coast of WA.

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Michael Burton

Johanna Zimmerhackel

Julian Clifton

Carmen Elrick-Barr

Fran Ackermann

Georgie Hill

Euan Harvey

Paul McLeod

Jenny Shaw

Dianne McLean

Julian Partridge

Steve Newman

Mark Pagano

Luke Twomey

Enhancing the Understanding of the Value Provided to Fisheries by Man-Made Aquatic Structures

FRDC 2018-053

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Curtin University · The University of Western Australia · FRDC · Australian Institute of Marine Science · Western Australian Marine Science Institution · Department of Primary Industries and Regional Development

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Monitoring of Community Coastal Values

The PNP and UWA delivered a pilot community values project in the PNP region from Rockingham to Busselton. The project utilised the CoastSnap community beach monitoring sites as a tool to support the collection of real-time community coastal social values.

A new vision for coastal resilience:
Engaging communities through art to design a transformative future

Natasha Pauli · Carmen Elrick-Barr · Abbie Rogers · Daniel Jan Martin · Michael Cuttler · Arnold van Rooijen · Rosie Halsmith · Ellie Biggs · Kate Driver · Sofie Nielsen · Caine Holdsworth · Liam Mouritz · Alice Ford

University of the Sunshine Coast Australia

Coastal community resilience project

Using research to build community resilience to coastal climate hazards in Australia.

- Professor Tim Smith Lincoln University, New Zealand: is an expert in coastal governance and climate change adaptation
- Professor Mark Pelling King's College, United Kingdom: is an expert in the institutions and social relationships that shape vulnerability and adaptation to natural disasters, including those associated with climate change.
- Emerita Professor Kate Brown University of Exeter, United Kingdom: is an interdisciplinary social scientnts specialising in environmental change, vulnerability and resilience.
- Professor Bruce Glavovic Massey University, New Zealand: Bruce's research centres on the role of governance in building resilient and sustainability communities, focusing on coastal communities.
- Professor Ryan Plummer Brock University, Canada: leads a multi-faceted program of research broadly concerning the governance of social-ecological systems.

ither team members

- Dr Marcus Bussey University of the Sunshine Coast, Australia: is a futurist and historian whose research focus explores cultural change via the phenomenology of body wisdom, anticipatory aesthetics and educational futures.
- **Samantha Willcocks** (PhD candidate) is a creative imagineer and community change-maker exploring inner and outer dimensions of adaptive capacity, and eco-embodied cognition for resilience, through a participatory, trans-disciplinary approach in Africa and Australia.

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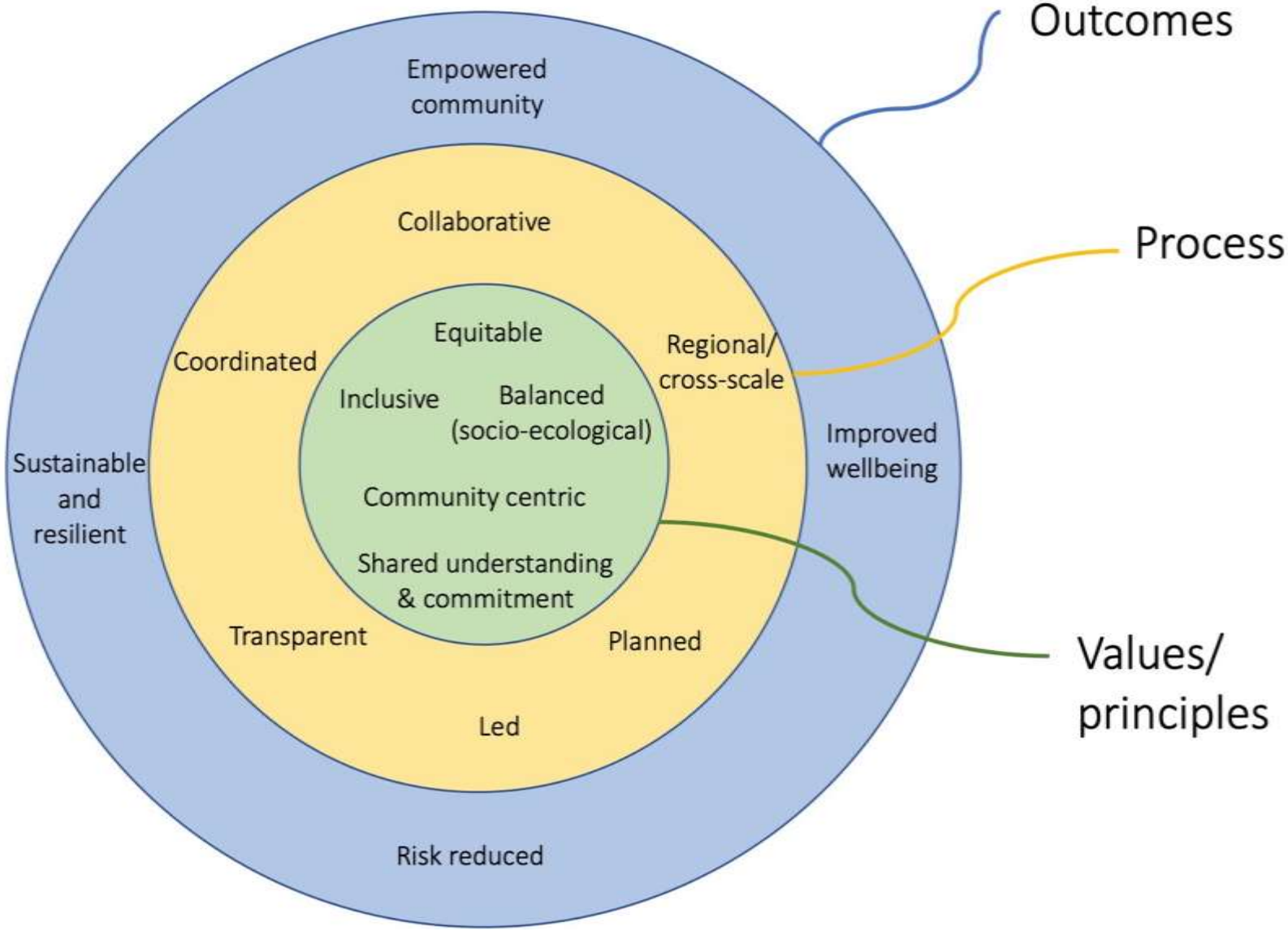

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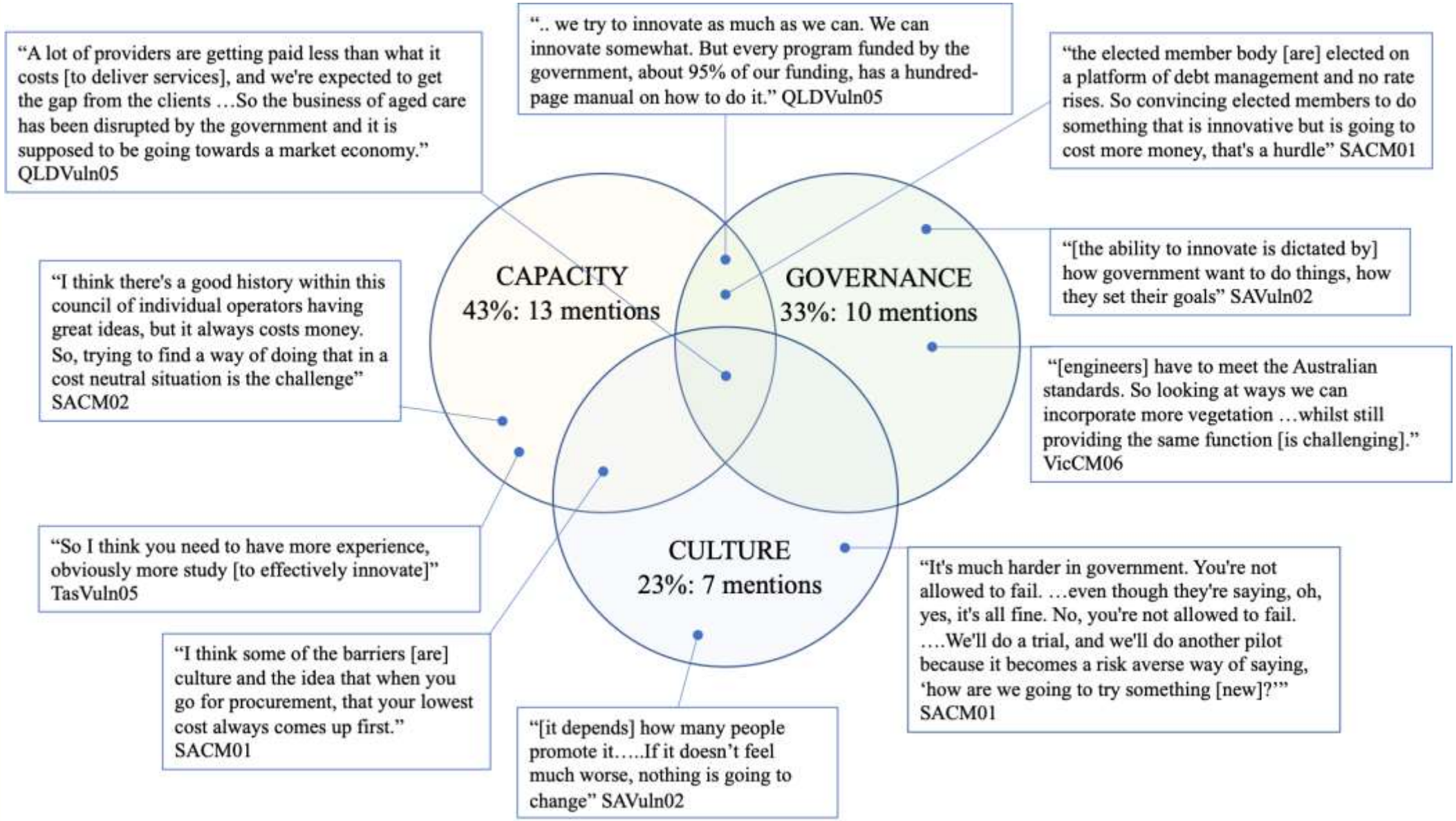

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	Coastal	Community
Actions considered innovative	Technological developments (e.g., improved information on coastal change) Forward planning activities Infrastructure (e.g., seawalls, solar farms, foreshore developments) Improvements in risk management Cross-jurisdictional networks Policy or legislative change Citizen science (e.g., CoastSnap) Community awareness-raising (e.g., Coastal Ambassadors)	Technologies that improve service provision (e.g., health apps, volunteer recruitment apps) Change in problem-solution framing (e.g., listening programs; mobile housing) Collaborative service delivery (e.g., service hubs)
Objective of innovation	Address risk (e.g., flood risk) Build organisational capacity (e.g., improve knowledge/understanding of risk) Increase community awareness (e.g., community engagement in adaptation planning, understanding of coastal processes)	
Who is involved?	Local government State government Consultants/researchers Local community members/beach users	

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https://doi.org/10.1016/j.envsci.2024.103687

Environmental Science and Policy 153 (2024) 103687

Contents lists available at ScienceDirect

Environmental Science and Policy

journal homepage: www.elsevier.com/locate/envsci

Governance innovations in the coastal zone: Towards social-ecological resilience

Carmen E. Elrick-Barr [a,e,*,1], Dana C. Thomsen [a,c,d,2], Timothy F. Smith [a,b,c,d,3]

[a] Sustainability Research Centre, School of Law and Society, University of the Sunshine Coast, Sippy Downs, QLD, Australia
[b] Faculty of Environment, Society and Design, Lincoln University, Aotearoa, New Zealand
[c] Environmental Sustainability Research Centre, Brock University, Canada
[d] SWEDESD, Department of Women's and Children's Health, Uppsala University, Sweden
[e] School of Agriculture and Environment, Centre for Environmental Economics and Policy, Oceans Institute, University of Western Australia, Australia

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https://doi.org/10.1016/j.ocecoaman.2023.106953

Ocean and Coastal Management 248 (2024) 106953

Contents lists available at ScienceDirect

Ocean and Coastal Management

journal homepage: www.elsevier.com/locate/ocecoaman

Is 'hope' helpful or a hinderance? Implications for coastal governance

Carmen E. Elrick-Barr [a,b,*], Timothy F. Smith [b,c,d,e], Dana C. Thomsen [b]

[a] Centre for Environmental Economics and Policy, School of Agriculture and Environment, Oceans Institute, University of Western Australia, Australia
[b] Sustainability Research Centre, School of Law and Society, University of the Sunshine Coast, Queensland, Australia
[c] Faculty of Environment, Society and Design, Lincoln University, Aotearoa, New Zealand
[d] Environmental Sustainability Research Centre, Brock University, Canada
[e] SWEDESD, Department of Women's and Children's Health, Uppsala University, Sweden

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Exemplars

Sought:

- Impact beyond the immediate focal area of the organization
- To achieve community sustainability (social and ecological)

Operated independently from government

Supported cross-sectoral collaboration

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https://doi.org/10.1016/j.envsci.2024.103687

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Do we have a vision for coastal sustainability?

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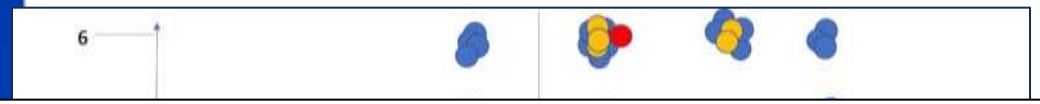

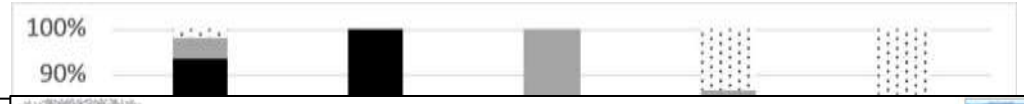

Ocean and Coastal Management 207 (2021) 105609

Contents lists available at ScienceDirect

Ocean and Coastal Management

journal homepage: http://www.elsevier.com/locate/ocecoaman

Policy is rarely intentional or substantial for coastal issues in Australia

Carmen E. Elrick-Barr [a,*], Timothy F. Smith [a,b,c]

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[b] Environmental Sustainability Research Centre, Brock University, 1812 Sir Isaac Brock Way, St. Catharines, ON, L2S 3A1, Canada
[c] SWEDESD, Uppsala University, Campus Gotland, SE-621 67, Visby, Sweden

Environmental Science & Policy

Volume 127, January 2022, Pages 218-227

Problem framing for Australian coastal management

Carmen E. Elrick-Barr [a], Timothy F. Smith [a b c]

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From

- Managing the physical impacts of select climate hazards
- Unquestioned anthropocentric foci
- Legislation and data that reflect historic contexts (European dominated)
- Sectoral isolation across SES vulnerabilities (fragmentation and duplication)
- 'Hidden' social vulnerabilities
- Limited support/resources to local communities
- Failure avoidance

Towards

- Seeing and managing coasts as complex SES facing cumulative risks
- Critical consideration of framing
- Mechanisms that reflect contemporary contexts and cultural aspirations
- Cross-sectoral (and cross-scale) integration and collaboration
- Acceptance of and action to address systemic inequalities, e.g., procedural justice
- Investing in communities to enhance existing capabilities
- Experimentation and permission to fail

www.usc.edu.au/coastalgovernance

Access final report here

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Coastal Governance: Embracing Vulnerability and Change

Final project report

Timothy F Smith, Carmen E Elrick-Barr, and Dana C Thomsen

November 2023

University of the Sunshine Coast Australia

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What (and who) are we managing (for)?

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Ocean & Coastal Management

Volume 238, 1 May 2023, 106563

Understanding coastal social values through citizen science: The example of Coastsnap in Western Australia

Carmen E. Elrick-Barr [a], Julian Clifton [b], Michael Cuttler [c], Craig Perry [d], Abbie A. Rogers [c]

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Photo credit: Mark Kragt

Industry Note

Understanding the social and environmental values the community hold for Cockburn Sound

Full report here

Mach and Siders 2021
https://www.science.org/doi/10.1126/science.abh1894

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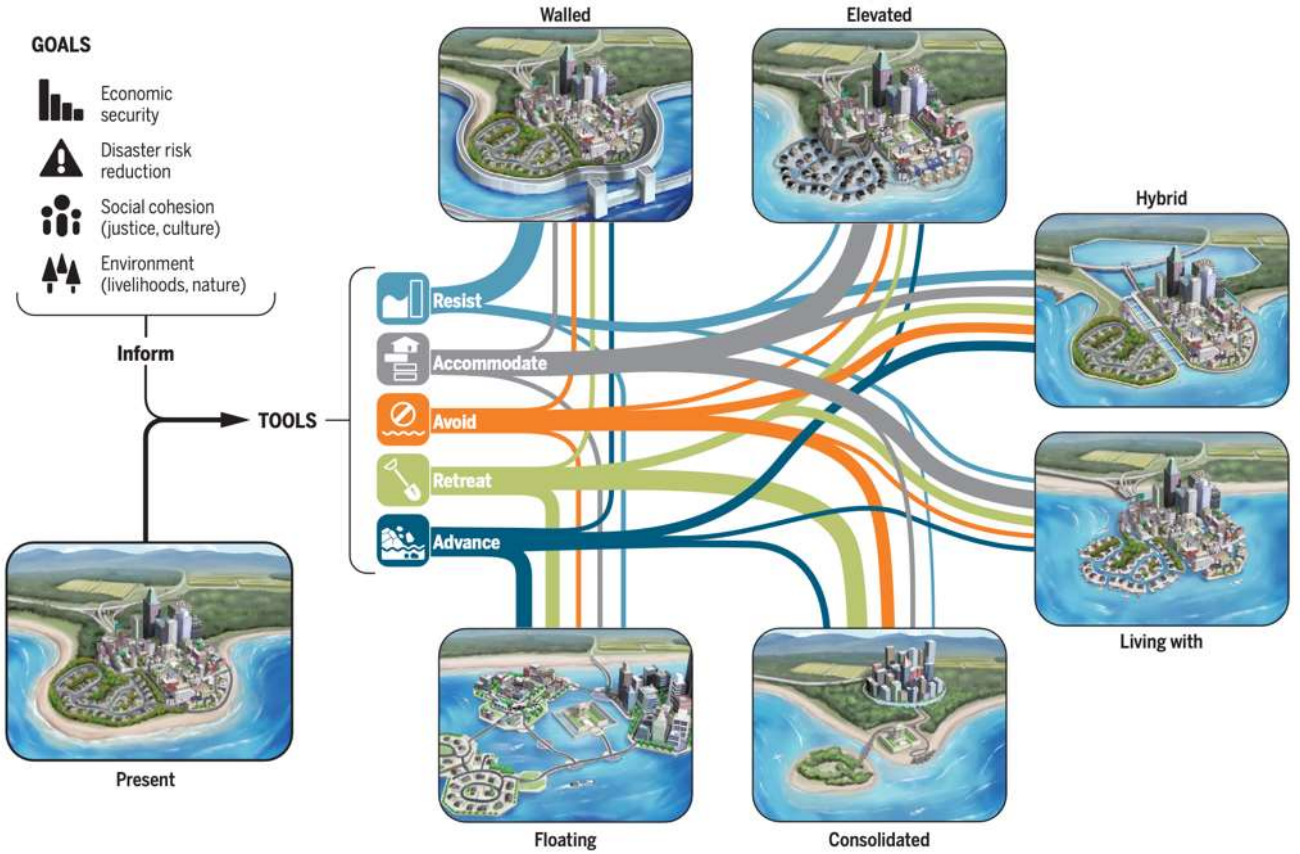

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Thomsen, D. C., T. F. Smith, and N. Keys. 2012. Adaptation or manipulation? Unpacking climate change response strategies. *Ecology and Society* **17**(3): 20.
http://dx.doi.org/10.5751/ES-04953-170320

Insight

Adaptation or Manipulation? Unpacking Climate Change Response Strategies

Dana C. Thomsen [1], *Timothy F. Smith* [1], *and Noni Keys* [1]

ged-retreat/

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Figure 1: Visual summary of research project process

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Drift through dunes

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“‘more understandable, usable, and actionable and something that speak to [their] needs…’” (Panwar et al 2024)

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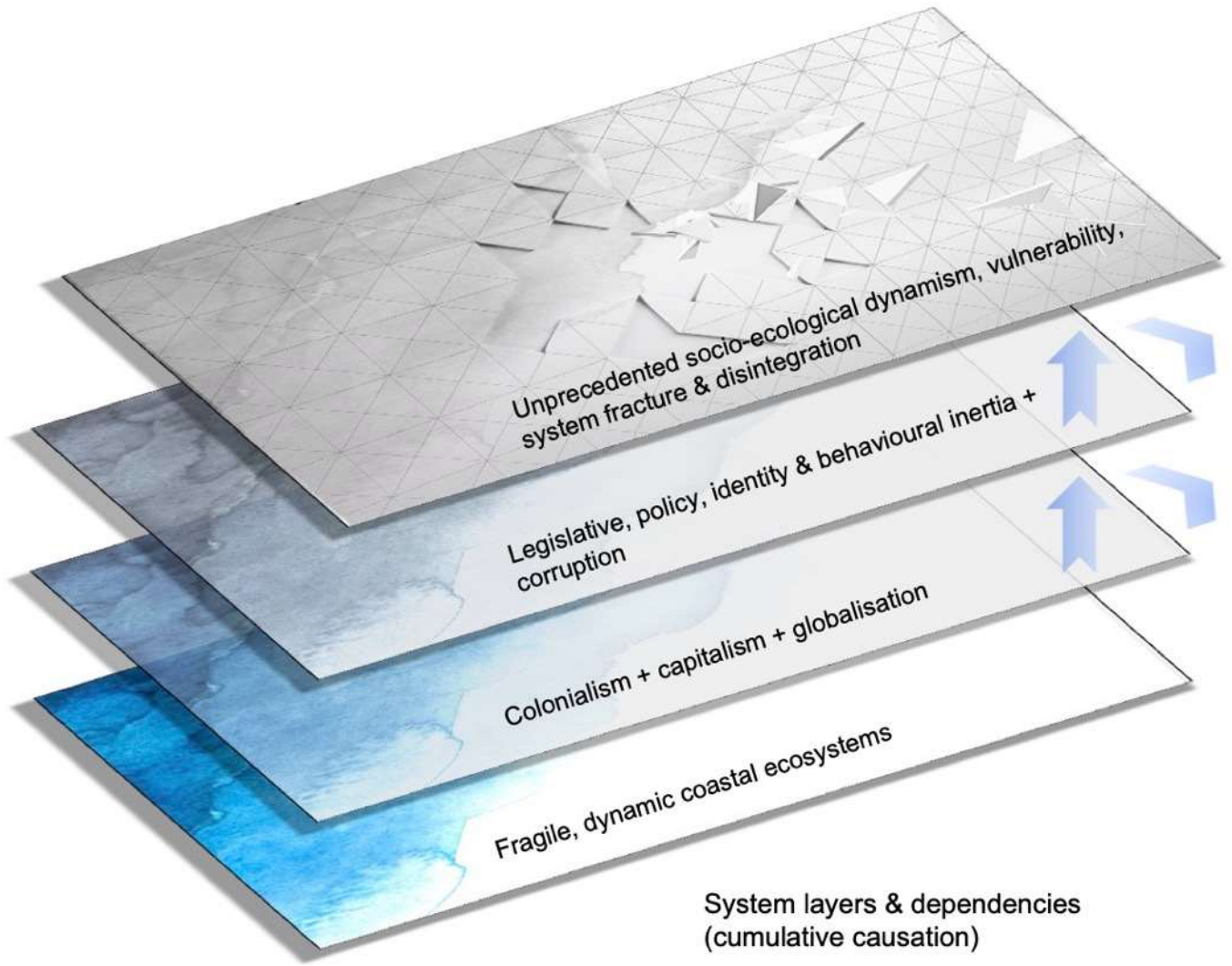

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Email: celrick@usc.edu.au

QUESTIONS AND DISCUSSION

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