

The Australian Natural Disaster Resilience Index

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Australian Government
Department of Industry,
Innovation and Science

Business
Cooperative Research
Centres Programme

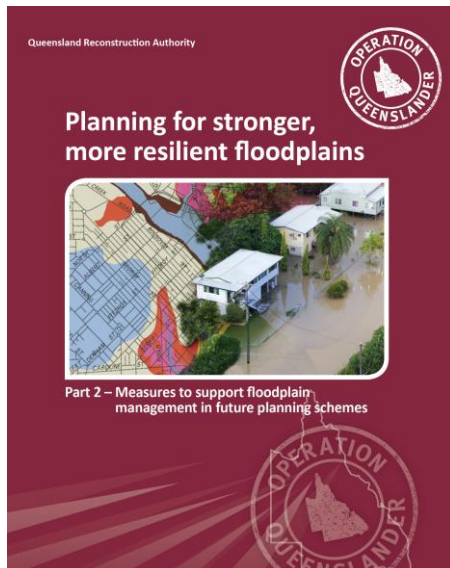
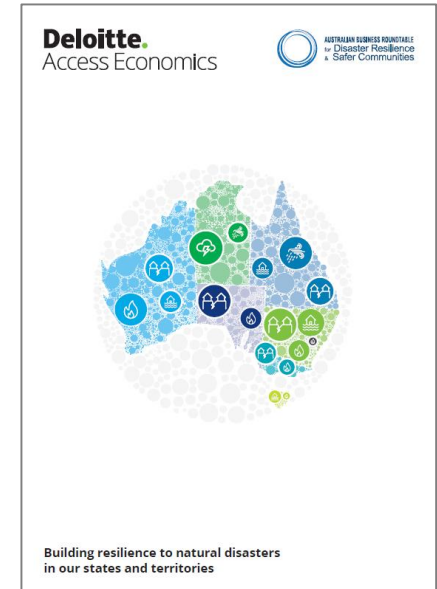
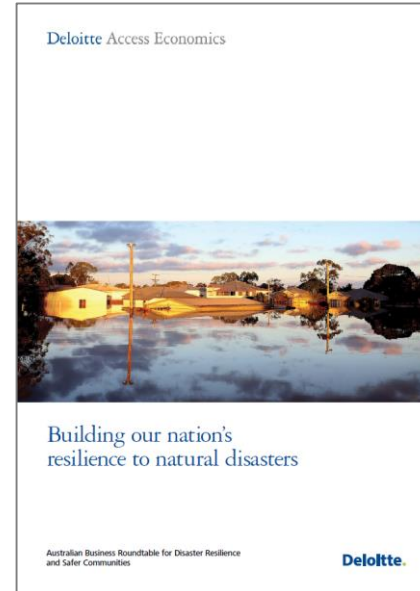
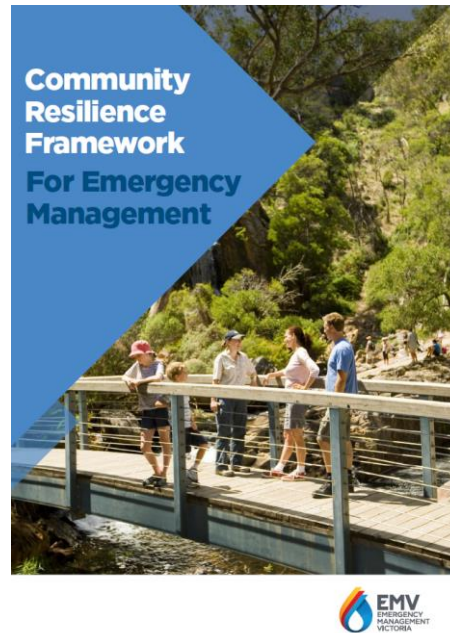
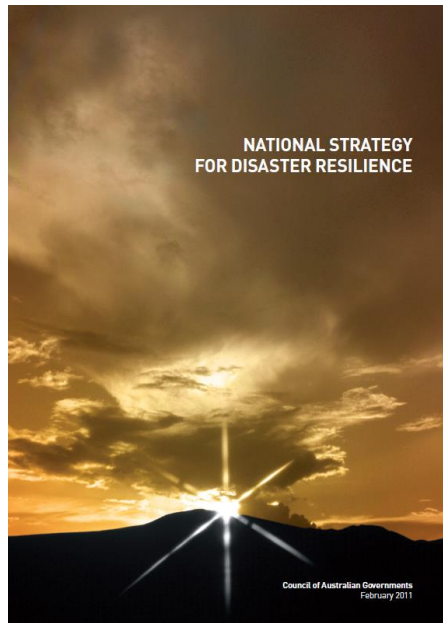


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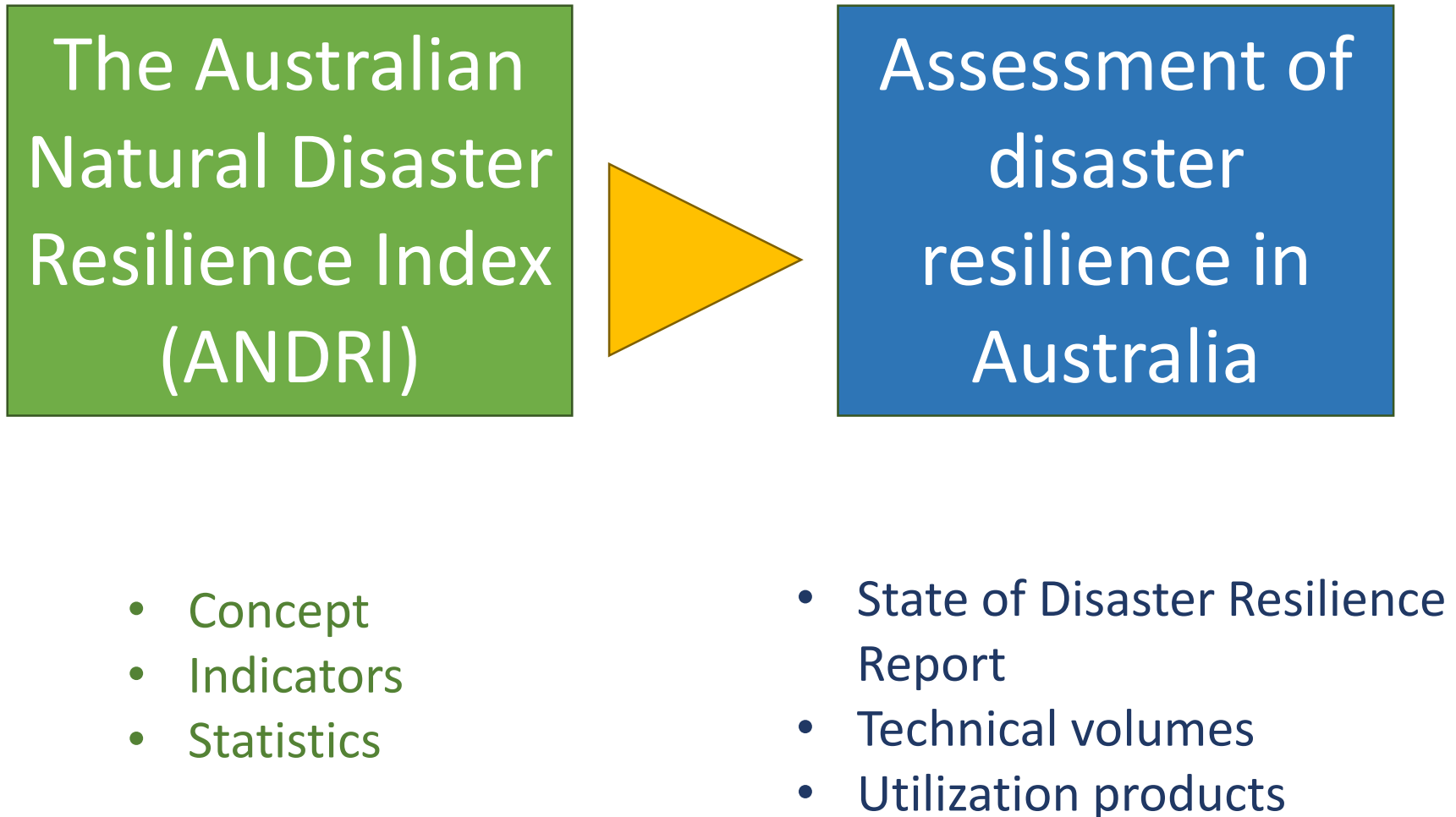


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The landscape of disaster resilience in Australia



A standardised assessment of disaster resilience in Australia



A standardised assessment of disaster resilience in Australia - concepts

Community resilience to natural hazards

**Coping
capacity**

**Adaptive
capacity**

The means by which people or organizations use available resources and abilities to face adverse consequences that could lead to a disaster (UNISDR 2004)

The arrangements and processes that enable adjustment through learning, adaptation and transformation

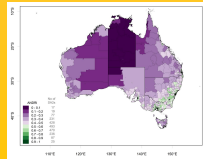
- The index assesses the capacity for disaster resilience not observed resilience following any one event

A standardised assessment of disaster resilience in Australia - concepts

Assessment of disaster resilience

TOP DOWN APPROACH

ANDRI



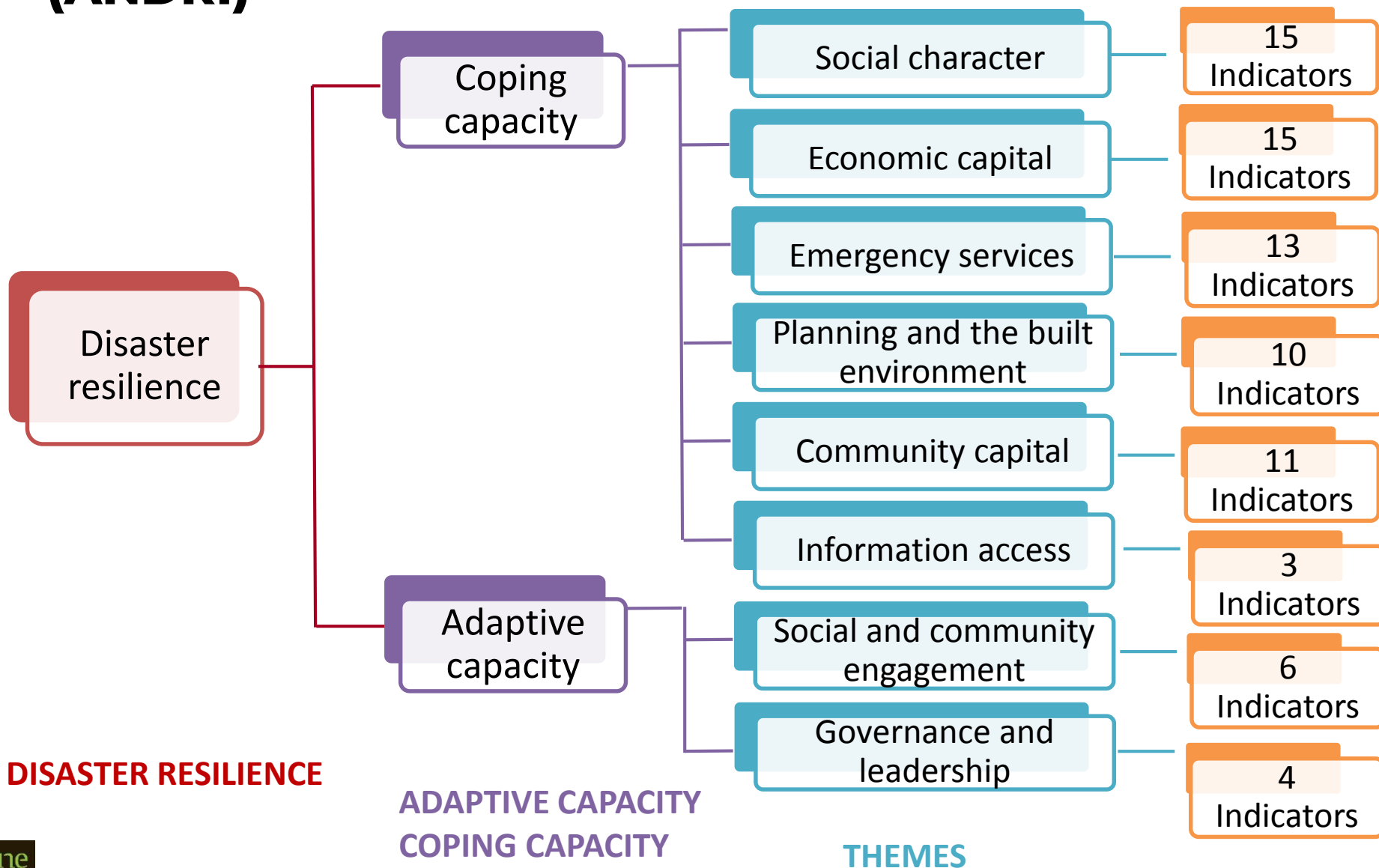
- Communities in states, countries
- Latent dimensions of disaster resilience
- Data – secondary sources (e.g. census)
- Indicators are normative understandings of relationships between variable and dimension

BOTTOM UP APPROACH

- Individuals, households, neighbourhoods, communities in one city or region
- Behaviour change, preparation, risk awareness aspects of disaster resilience
- Data – primary sources (e.g. surveys, scorecards, interviews)

- The index assesses disaster resilience using a top-down approach

The Australian Natural Disaster Resilience Index (ANDRI)

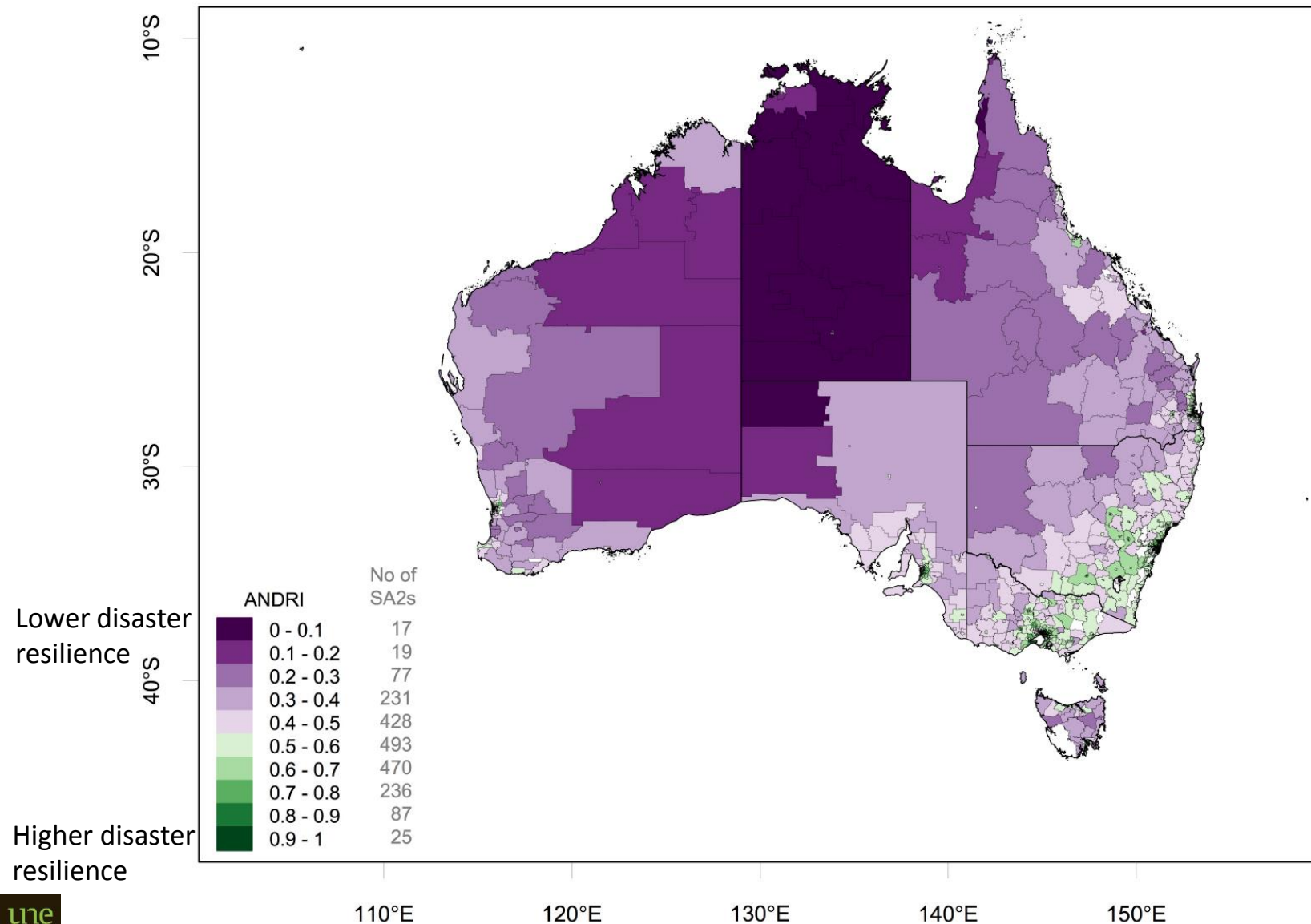


DISASTER RESILIENCE

ADAPTIVE CAPACITY
COPING CAPACITY

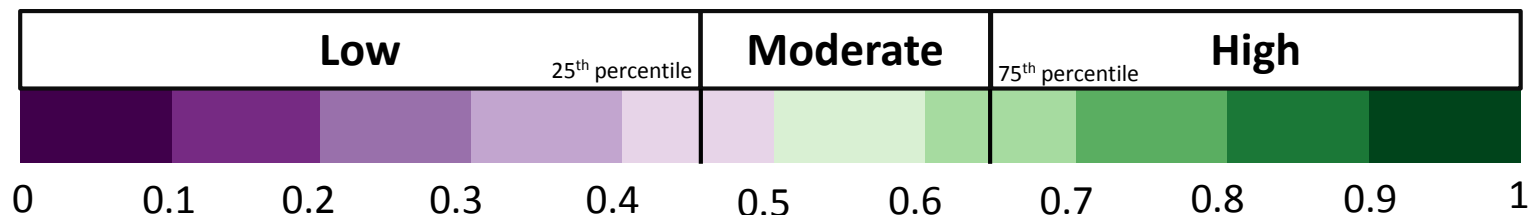
THEMES

The state of disaster resilience in Australia



The state of disaster resilience in Australia - overall

Capacity for disaster resilience



Population
(2015)

3.9 million
(16%)

12.2 million
(52%)

7.6 million
(32%)

Land area

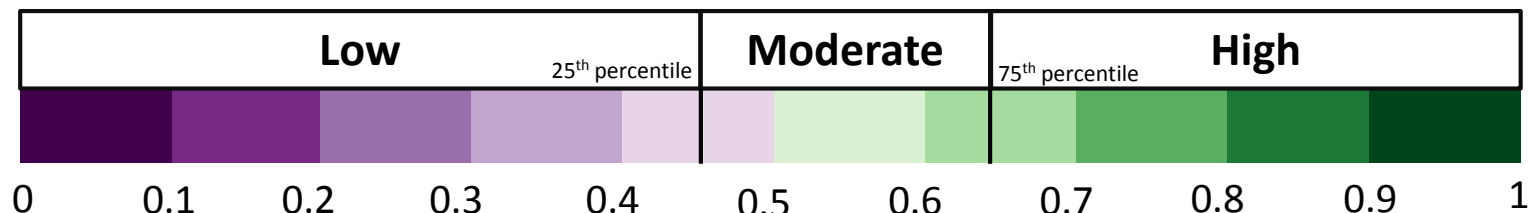
71 million km²
(93.5%)

467,000 km²
(6.0%)

30,000 km²
(0.5%)

The state of disaster resilience in Australia - overall

Capacity for disaster resilience



Population (2015)

3.9 million
(16%)

12.2 million
(52%)

7.6 million
(32%)

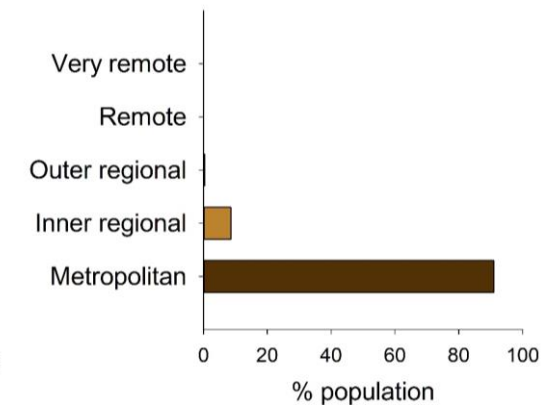
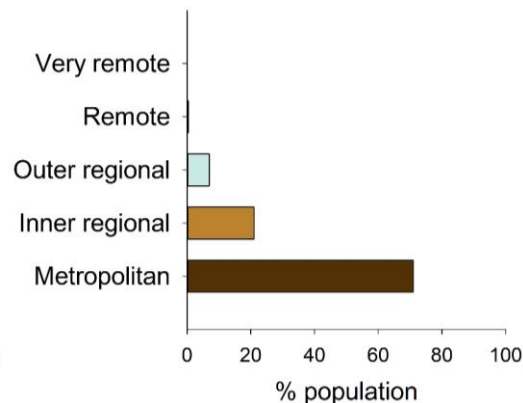
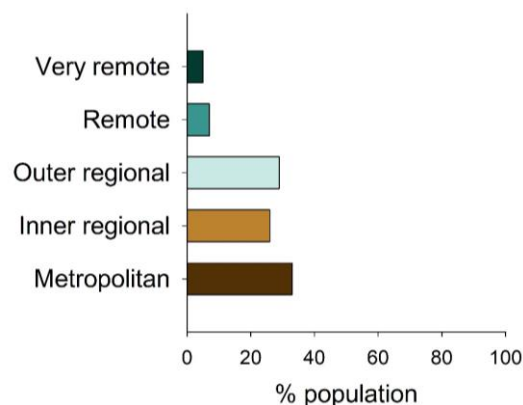
Land area

71 million km²
(93.5%)

467,000 km²
(6.0%)

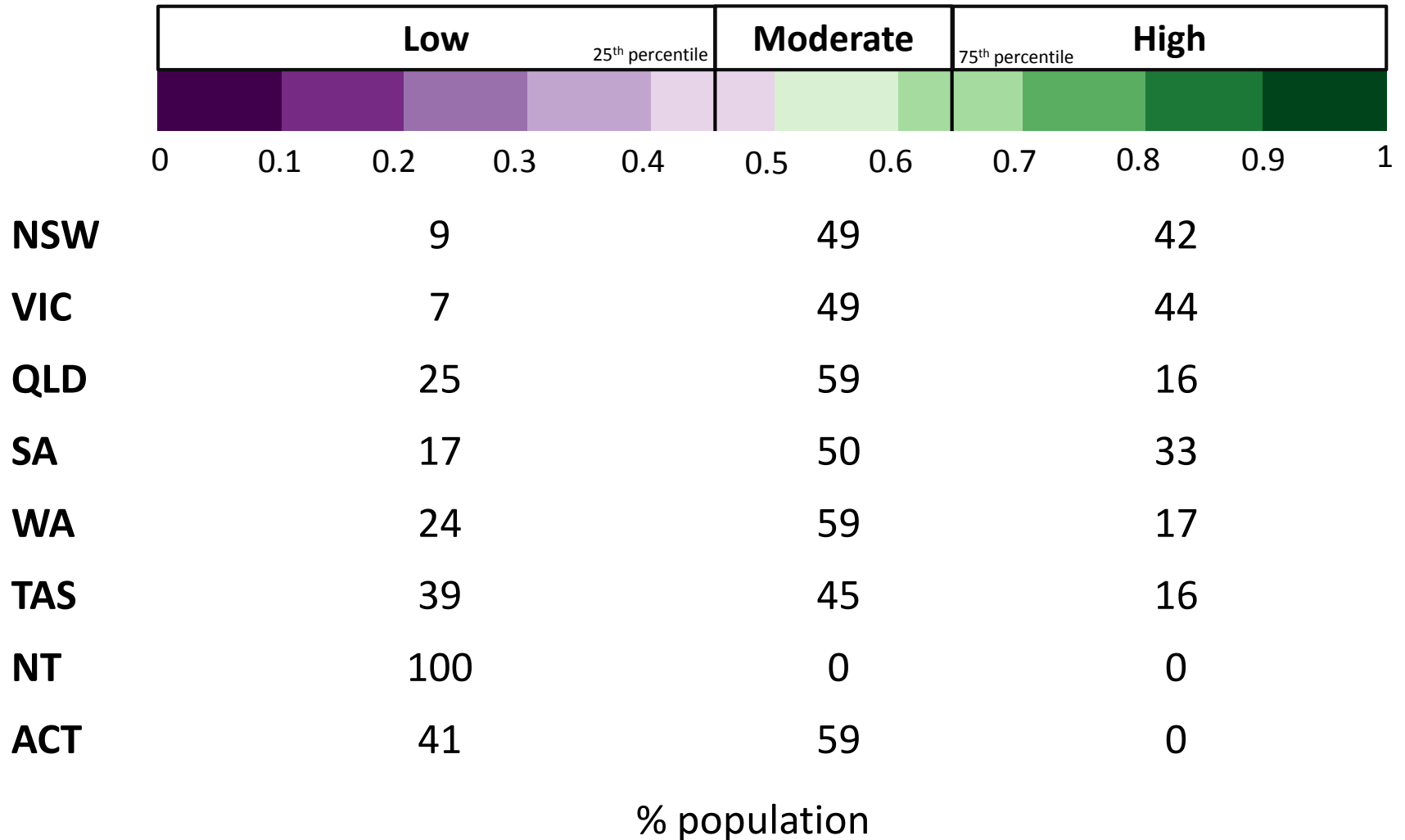
30,000 km²
(0.5%)

Remoteness

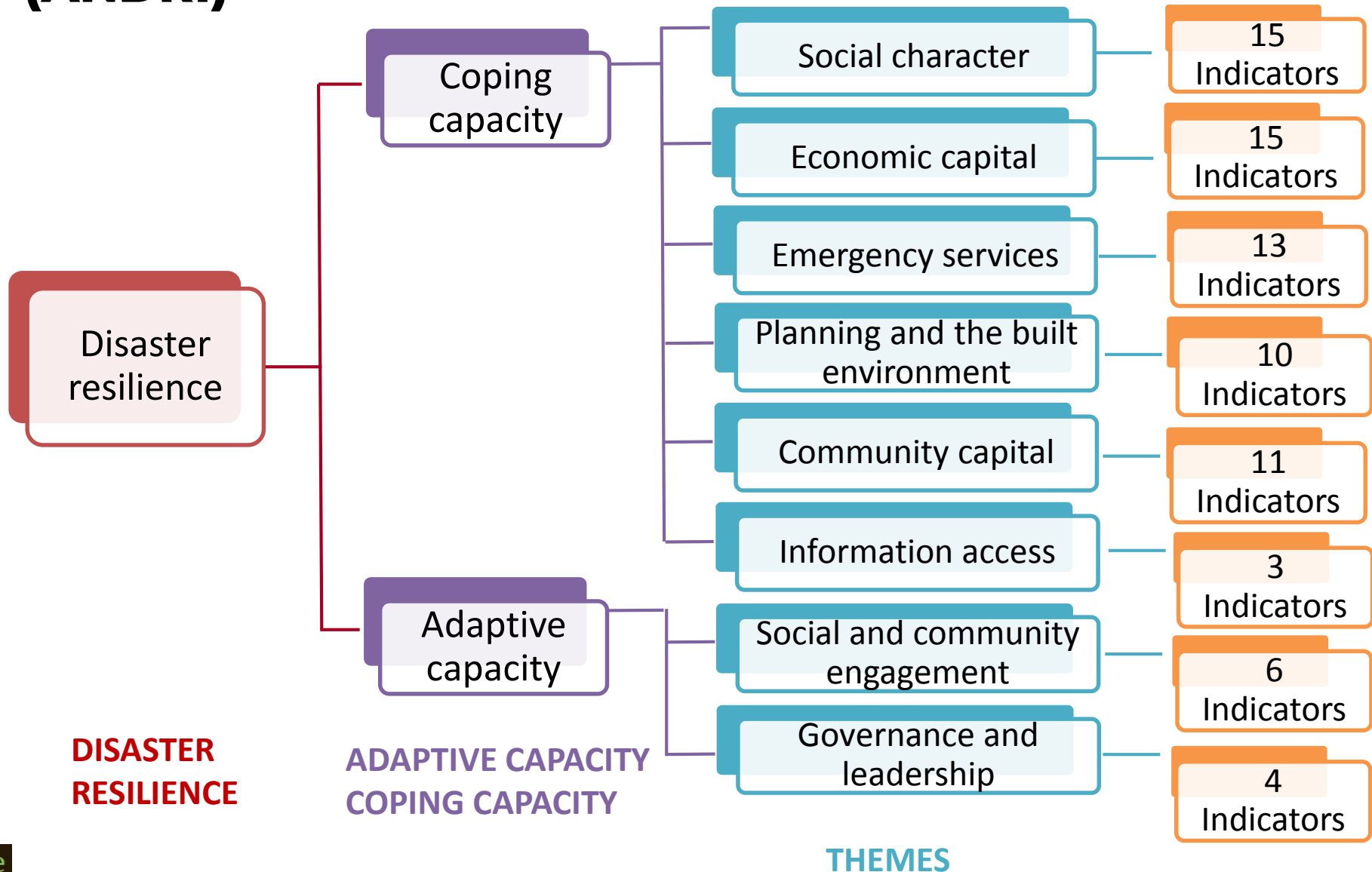


The state of disaster resilience in Australia – by States and Territories

Capacity for disaster resilience



The Australian Natural Disaster Resilience Index (ANDRI)



**DISASTER
RESILIENCE**

**ADAPTIVE CAPACITY
COPING CAPACITY**

THEMES

Coping and adaptive capacity

Using available resources to face adverse consequences

Coping capacity

		Low	Medium	High	
Adaptive capacity	Low	1.7 million (7%) 6.5 million km ²	2.2 million (9%) 258,000 km ²	382,000 (2%) 1,000 km ²	Population (2015) Land area
	Medium	1.8 million (8%) 502,000 km ²	6.3 million (27%) 256,000 km ²	3.1 million (13%) 7,900 km ²	25 th percentile
	High	519,000 (2%) 11,000 km ²	4.5 million (19%) 56,000 km ²	3.1 million (13%) 4,800 km ²	75 th percentile
		25 th percentile		75 th percentile	

Adaptive capacity

Adjustment through learning, adaptation and transformation

Coping and adaptive capacity

Using available resources to face adverse consequences

Coping capacity

		Low	Medium	High		
Adaptive capacity <i>Adjustment through learning, adaptation and transformation</i>	Low	1.7 million (7%) All classes	2.2 million (9%) Metropolitan Regional	382,000 (2%) Metropolitan Inner regional	Population (2015)	
	Medium	1.8 million (8%) Metropolitan Regional	6.3 million (27%) Metropolitan Inner regional	3.1 million (13%) Metropolitan Inner regional	Remoteness	25 th percentile
	High	519,000 (2%) Metropolitan	4.5 million (19%) Metropolitan	3.1 million (13%) Metropolitan Inner regional		75 th percentile
		25 th percentile		75 th percentile		

Summary.....

Where you live in Australia has a strong influence on capacity for disaster resilience.

Low capacity for disaster resilience – 16% of population
Moderate capacity for disaster resilience – 52% of population
High capacity for disaster resilience – 32% of population

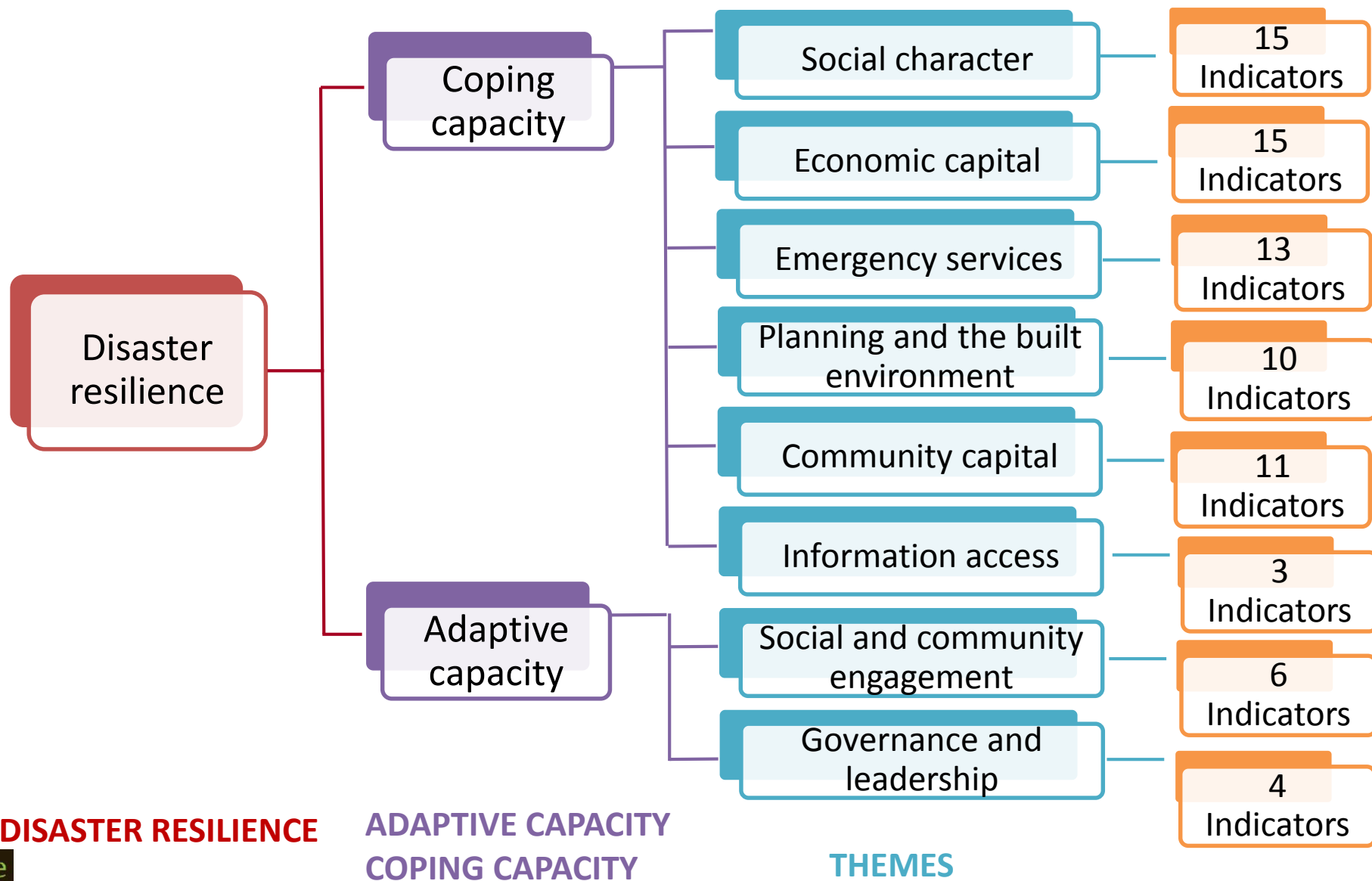
Communities with low capacity for disaster resilience are spread over a large land area.

Communities with high capacity for disaster resilience are concentrated into a small land area.

40
0.3 - 0.4 231
0.4 - 0.5 428

This pattern is similar for coping and adaptive capacity
About 28% of the population have low coping or adaptive capacity, or both

Factors influencing capacity for disaster resilience



DISASTER RESILIENCE

ADAPTIVE CAPACITY
COPING CAPACITY

THEMES

Factors influencing capacity for disaster resilience

COPING CAPACITY

Social character

The social factors that influence the capacity to prepare for and recover from a natural hazard event

Economic capital

The economic factors that influence the capacity to prepare for and recover from a natural hazard event

Emergency services

The capacity and potential of emergency service and health resources to respond to natural hazard events

Planning and the built environment

The capacity to prepare for natural hazards using landuse planning, mitigation or disaster planning

Community capital

Capacity for cohesion, connectedness and coordination for mutual benefit

Information access

Capacity to interact with information about natural hazards

ADAPTIVE CAPACITY

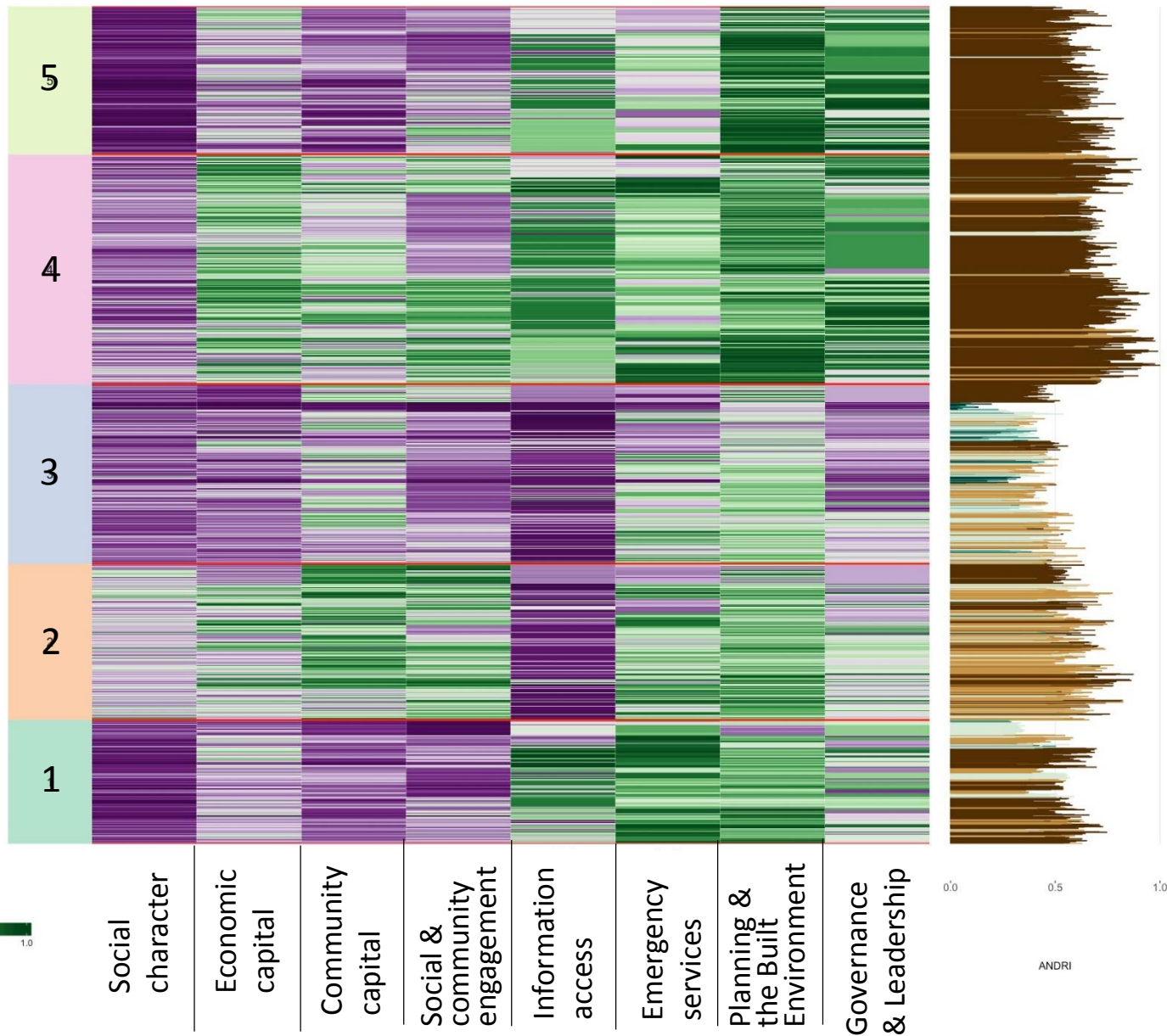
Social and community engagement

Social enablers of learning, adaptation and transformation

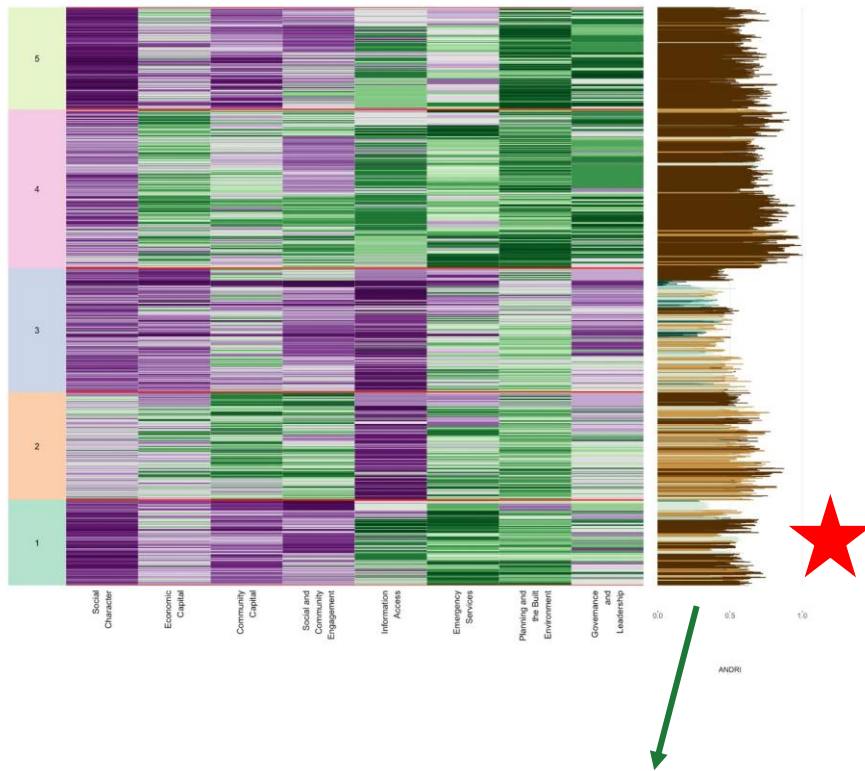
Governance and leadership

Organisational enablers of learning, adaptation and transformation

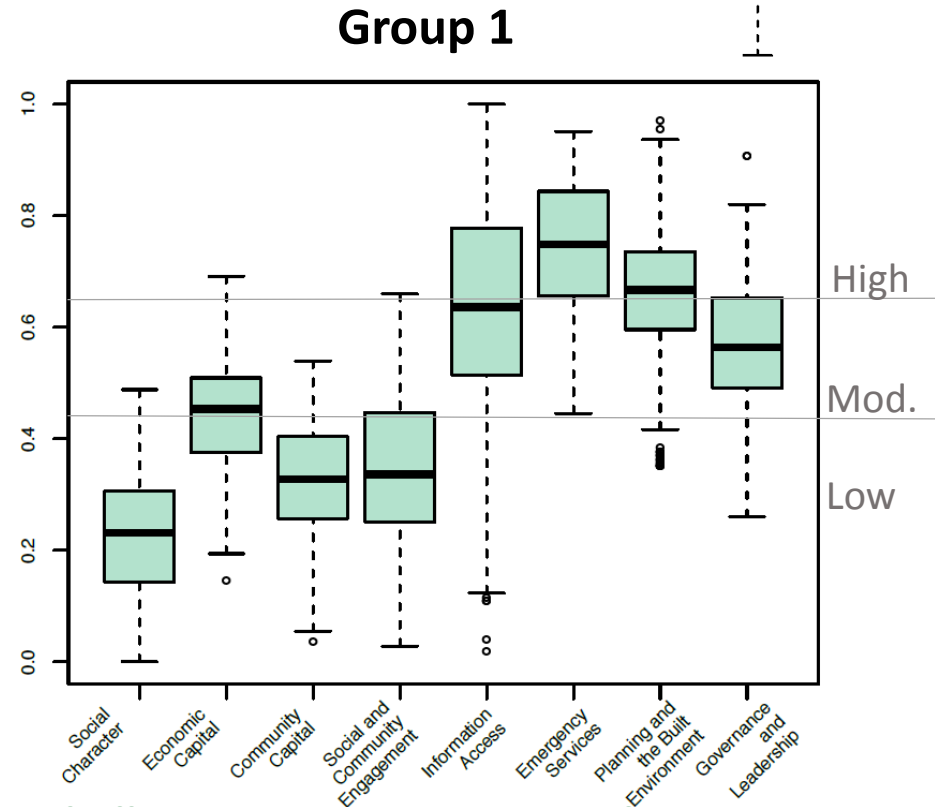
Factors influencing disaster resilience



Factors influencing disaster resilience



15% of Australian population
Mixed remoteness
Moderate ANDRI values



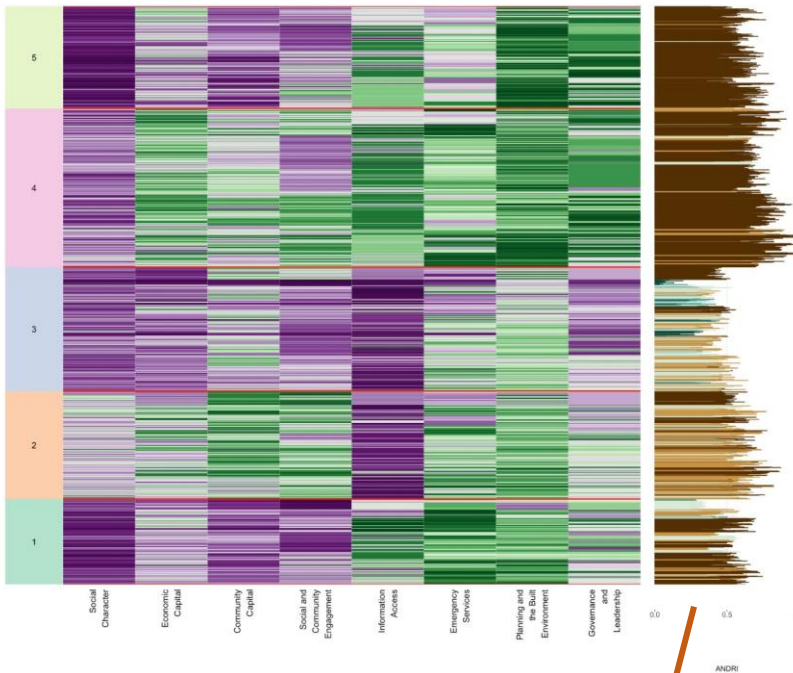
Challenges

- Social character
- Economic capital
- Community capital
- Social and community engagement

Strengths

- Information access
- Emergency services
- Planning and the Built Environment
- Governance and Leadership

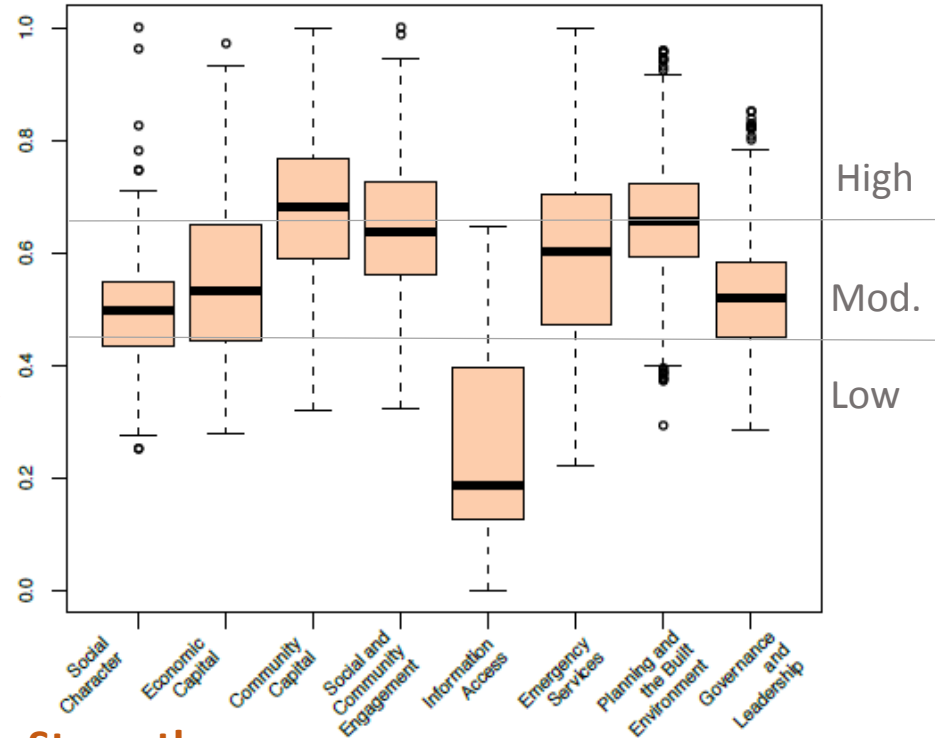
Factors influencing disaster resilience



14% of Australian population
Regional
Moderate-high ANDRI values

Moderate-high ANDRI values

Group 2



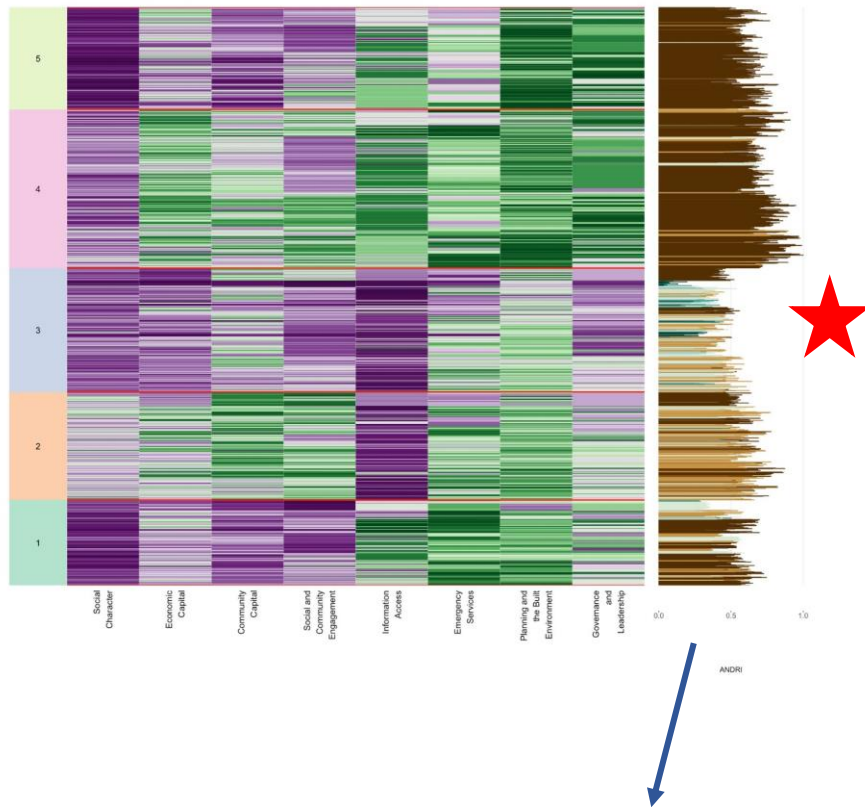
Strengths

- Community capital
- Moderate capacity in Social and community engagement, Emergency services, Planning and the Built Environment, Governance and leadership

Challenges

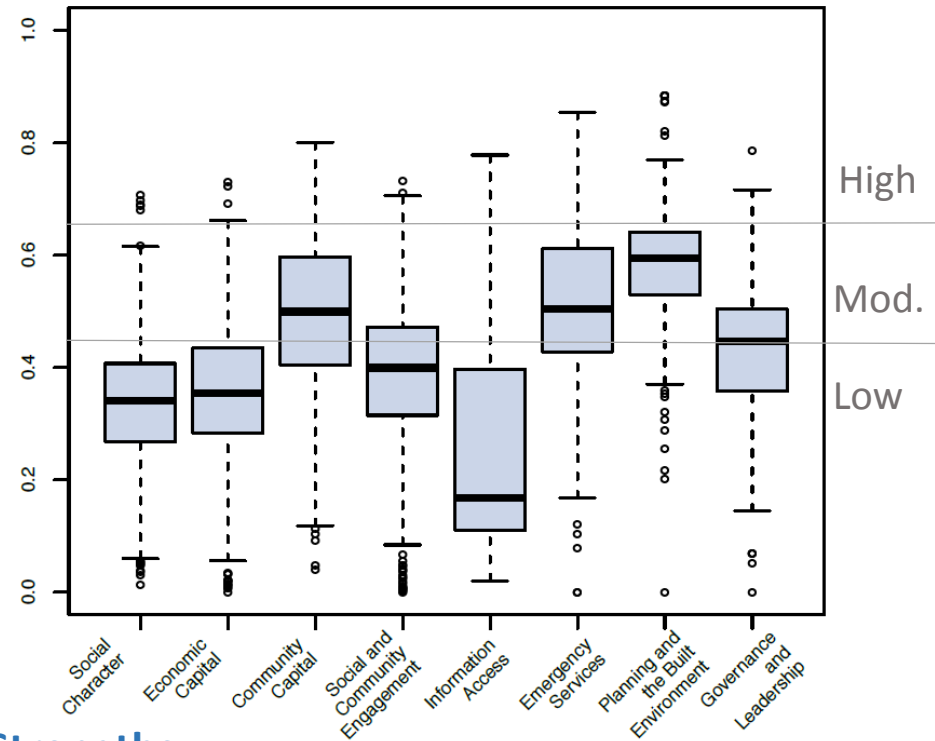
- Information access

Factors influencing disaster resilience



14% of Australian population
Regional and remote
Low ANDRI values

Group 3



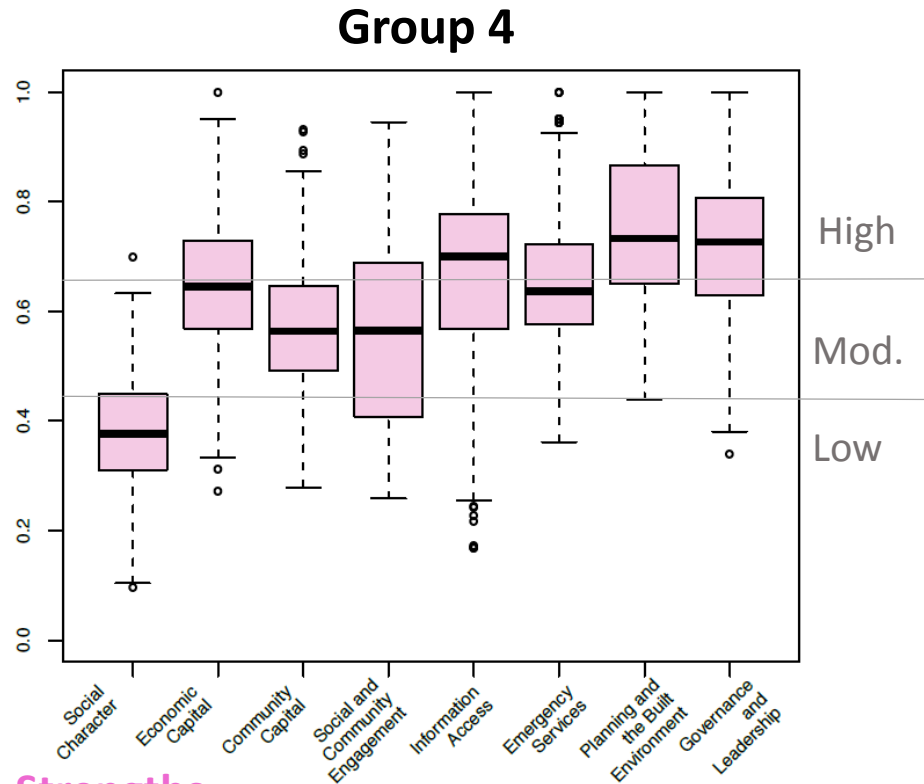
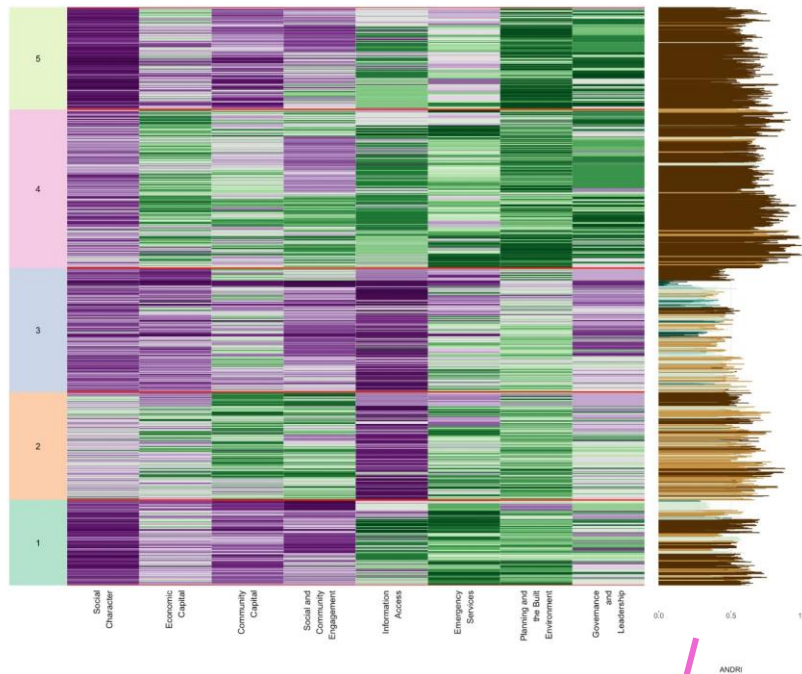
Strengths

- Moderate capacity in community capital, emergency services, planning and the built environment, governance and leadership

Challenges

- Social character, economic capital, social and community engagement, information access

Factors influencing disaster resilience



Strengths

- Information access, Planning and the Built Environment, Governance and Leadership, Economic capital, Emergency services, Social and community engagement, Community capital

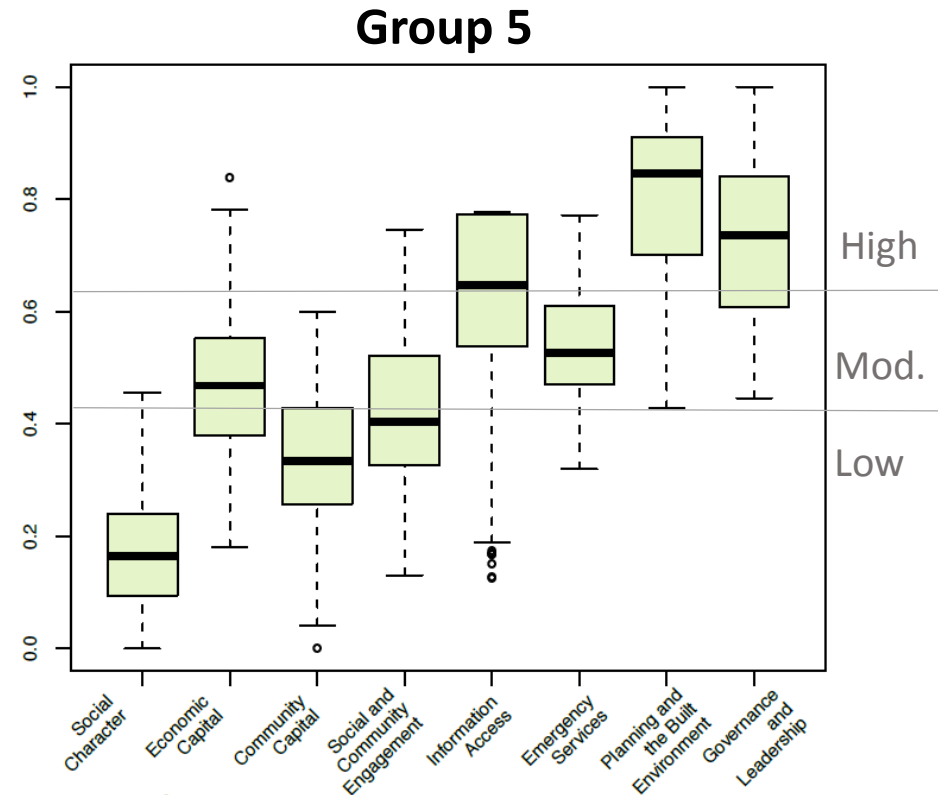
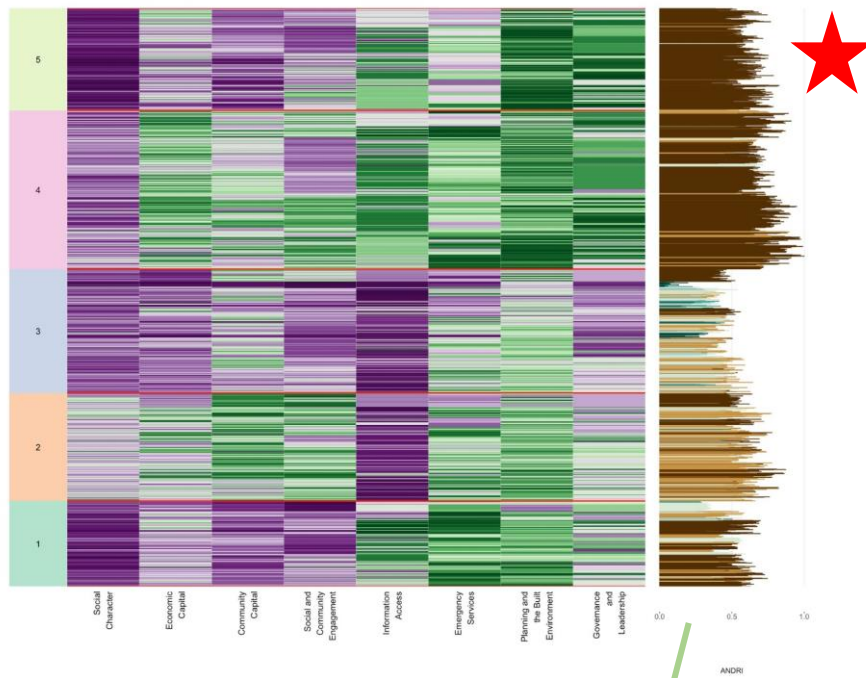
Challenges

- Social character

32% of Australian population
Metropolitan
High ANDRI values

HIGH ANDRI VALUES

Factors influencing disaster resilience



Strengths

- Information access, Planning and the Built Environment, Governance and Leadership, Emergency services

Challenges

- Social character, Economic capital, Social and community engagement, Community capital

25% of Australian population
Metropolitan
Moderate – high ANDRI values

Perth profile

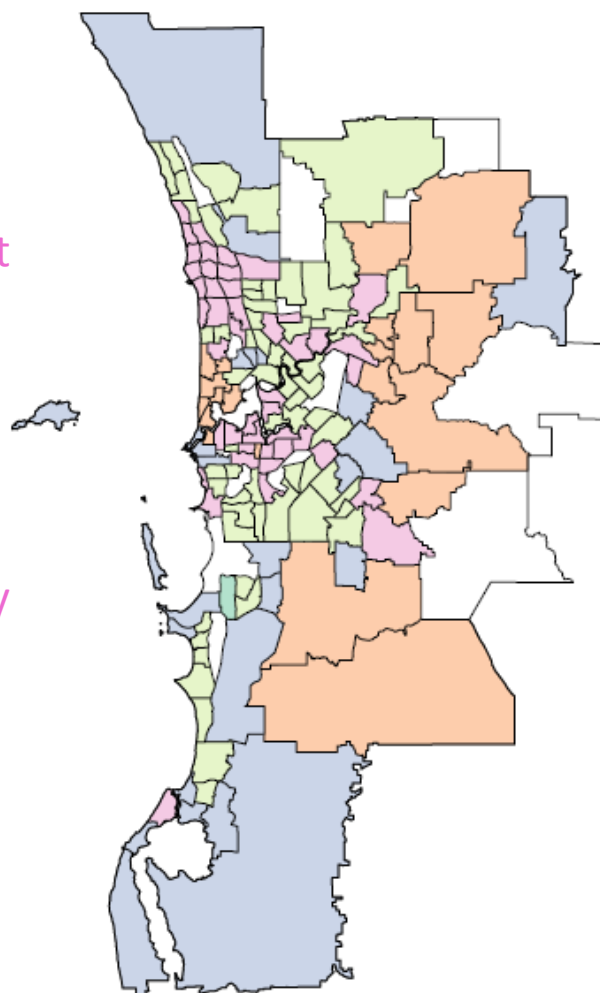
GROUP 4

Strengths

- Information access
- Planning and the Built Environment
- Governance and Leadership
- Economic capital
- Emergency services
- Social and community engagement
- Community capital

Challenges

- Social character



GROUP 5

Strengths

- Information access
- Planning and the Built Environment
- Governance and Leadership
- Emergency services

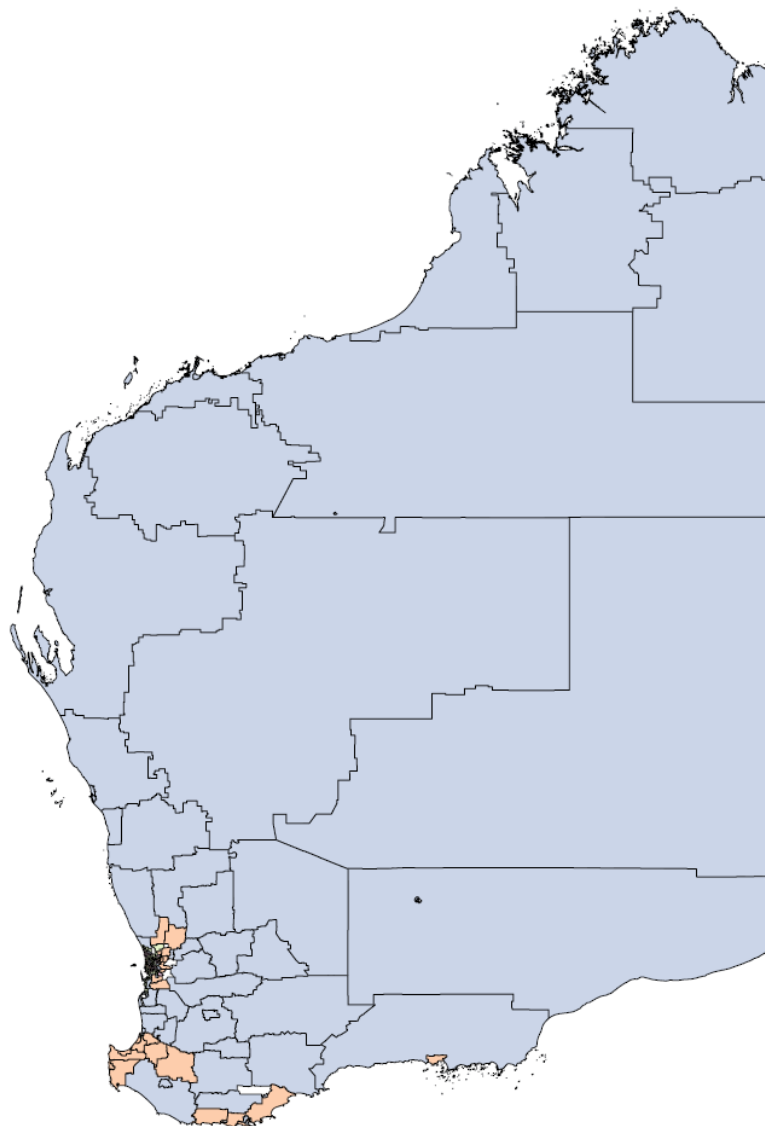
Challenges

- Social character
- Economic capital
- Social and community engagement
- Community capital

Cluster	No of SA2s
1	1
2	20
3	23
4	45
5	62

WA profile

Cluster	No of SA2s
1	1
2	36
3	77
4	46
5	64



Strengths

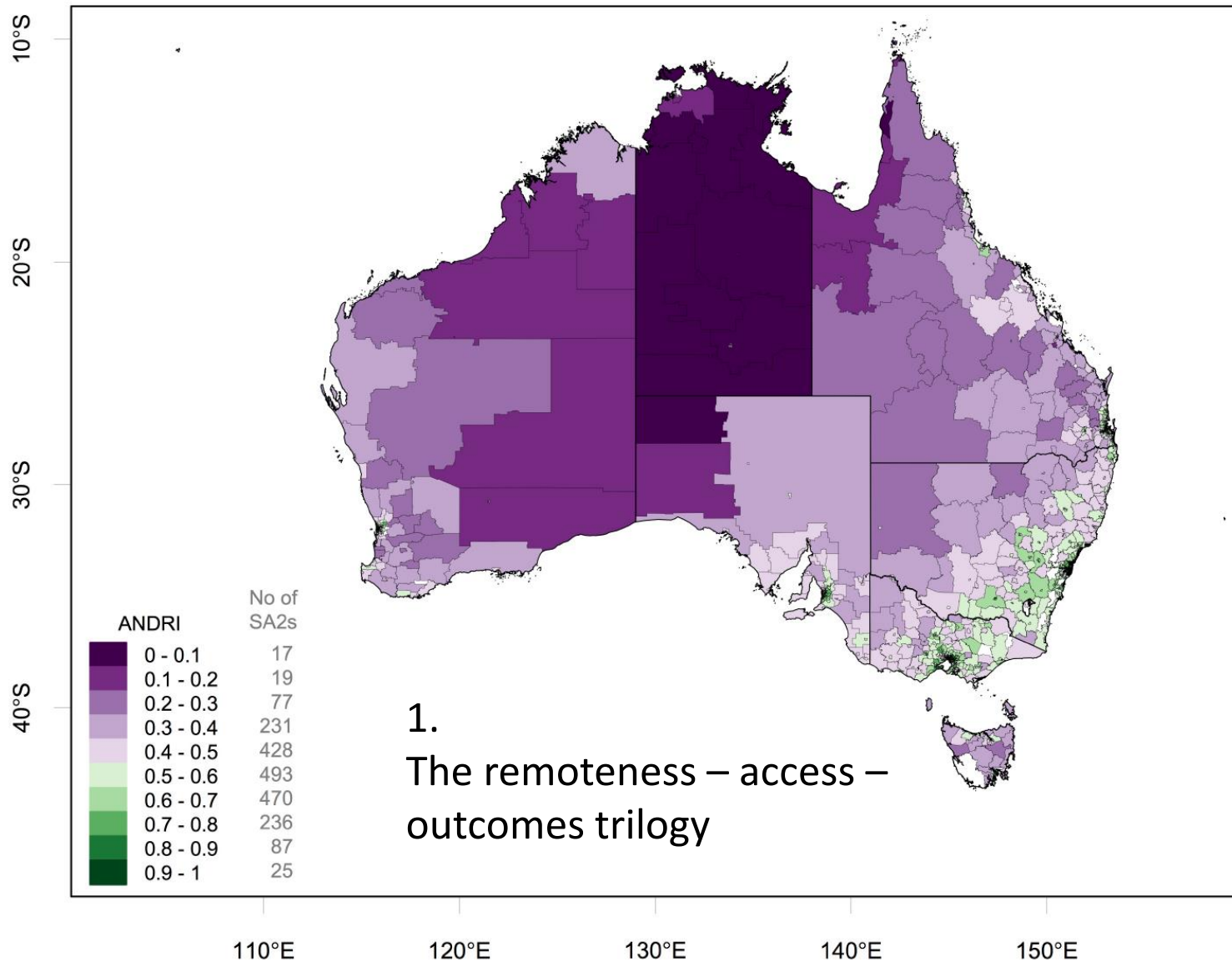
Moderate capacity in:

- Community capital
- Emergency services
- Planning and the Built Environment
- Governance and leadership

Challenges

- Social character
- Economic capital
- Social and community engagement
- Information access

Disaster resilience policy, programs and practice



Disaster resilience policy, programs and practice

