



THE AUSTRALIAN NATURAL DISASTER RESILIENCE INDEX

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Peter Hastings, Richard Stayner, Sonya Glavac, Judith McNeill,
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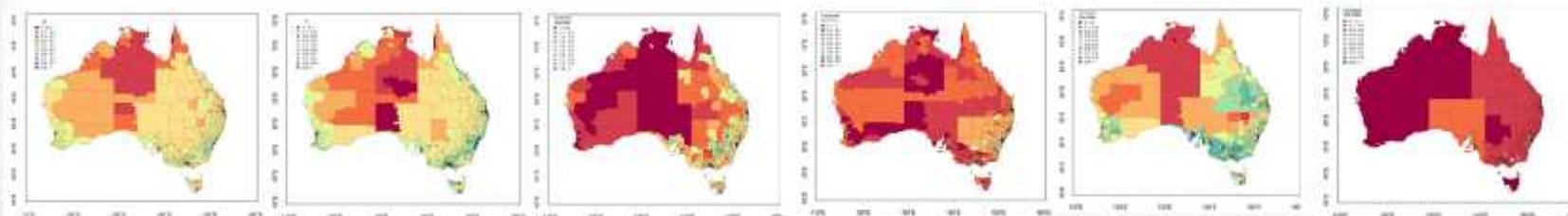
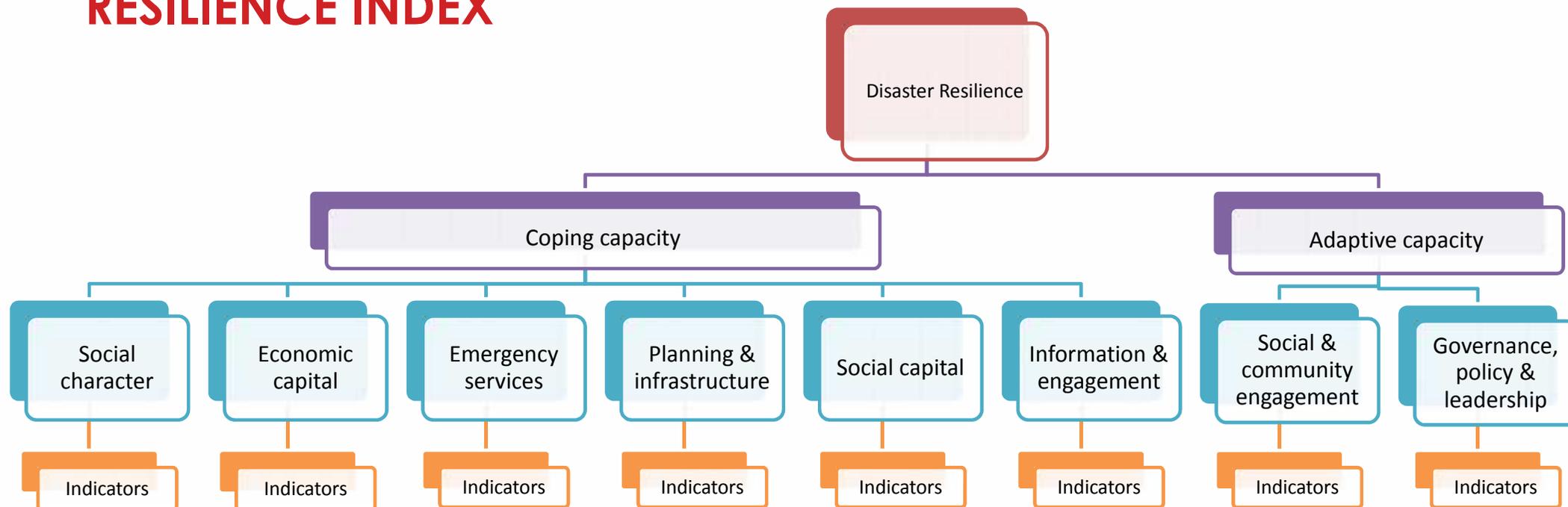
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Business
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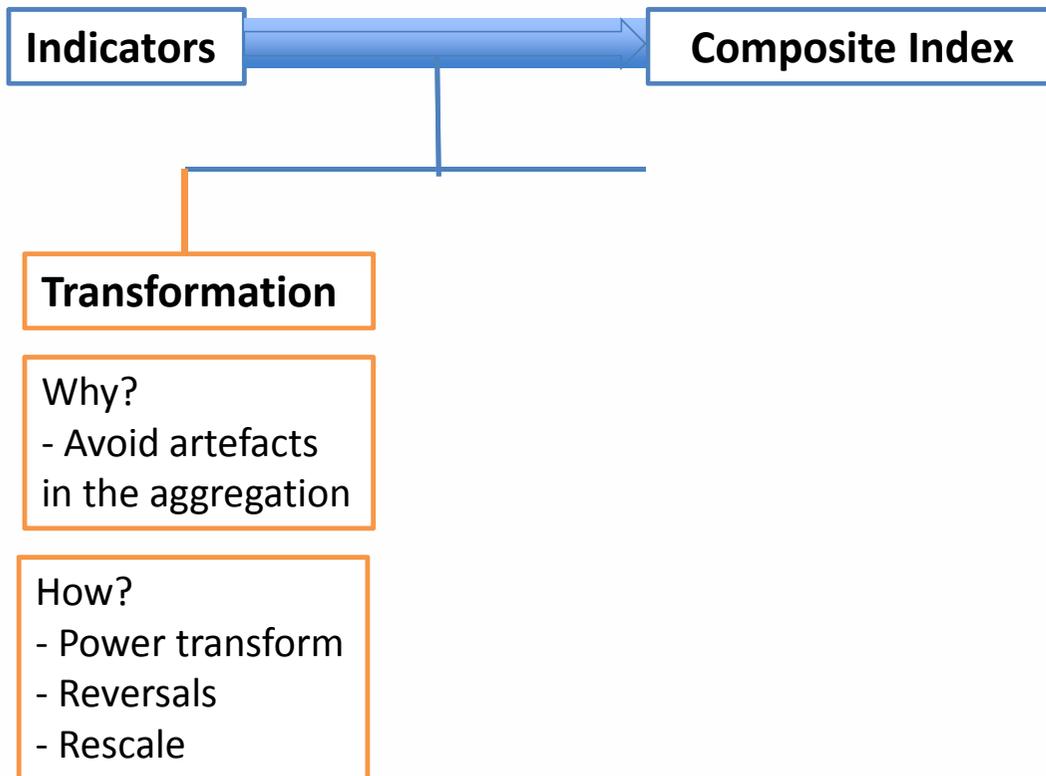


DESIGN OF THE AUSTRALIAN NATURAL DISASTER RESILIENCE INDEX

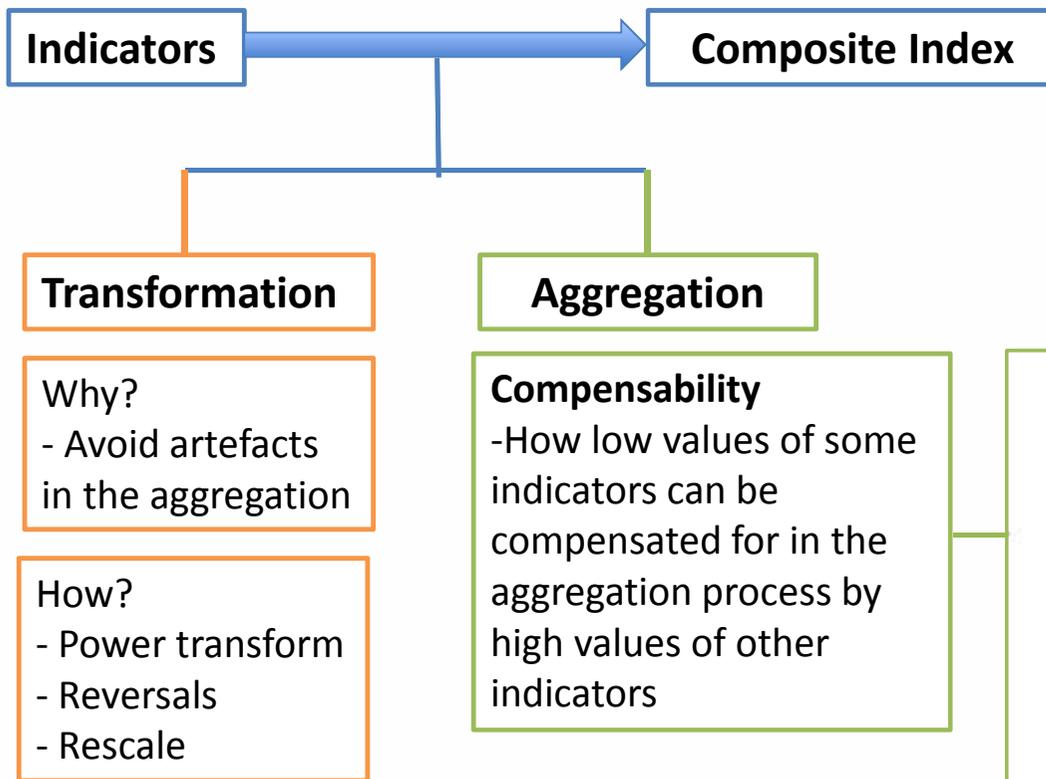


Not presented today

CALCULATING THE INDEX: STATISTICAL METHODS

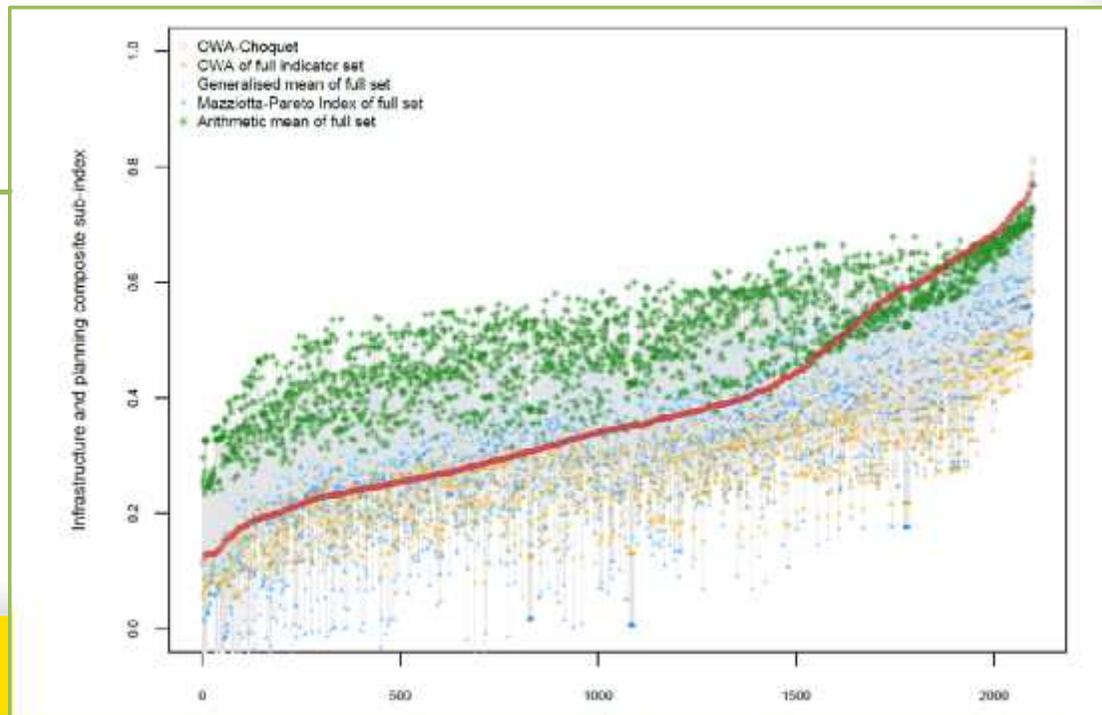


CALCULATING THE INDEX: STATISTICAL METHODS



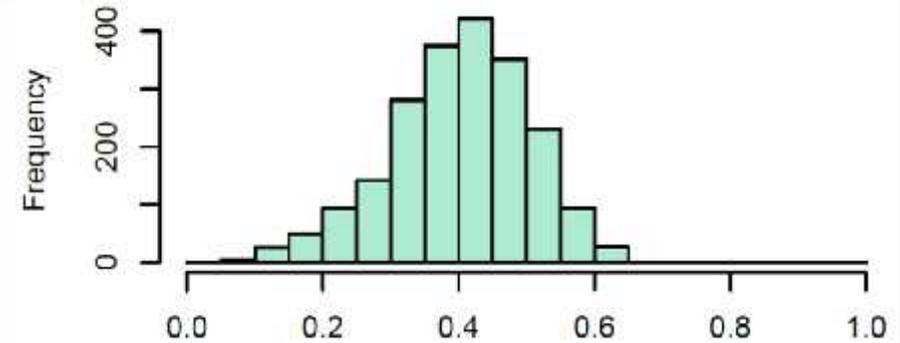
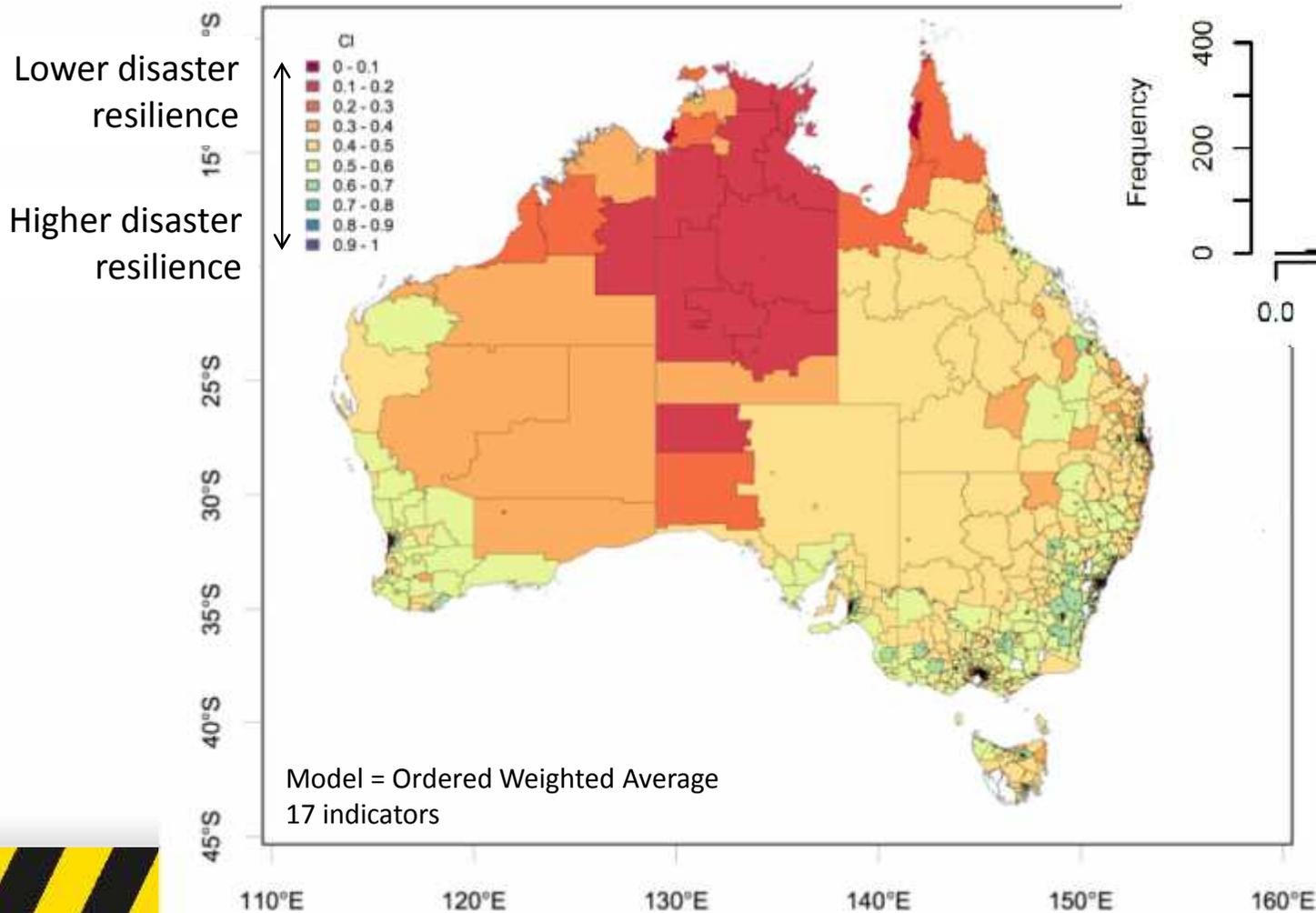
Aggregation functions

- Choquet integral
- Ordered weighted averaging
- Generalized mean
- Mazziotta-Pareto Index
- Arithmetic mean



INDEX – SOCIAL CHARACTER THEME

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

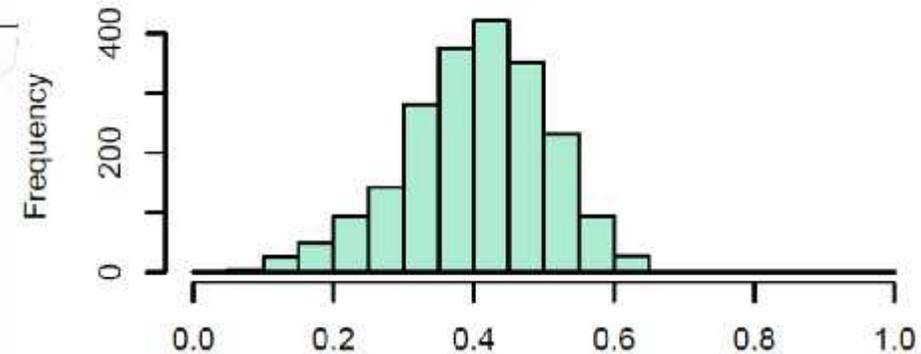
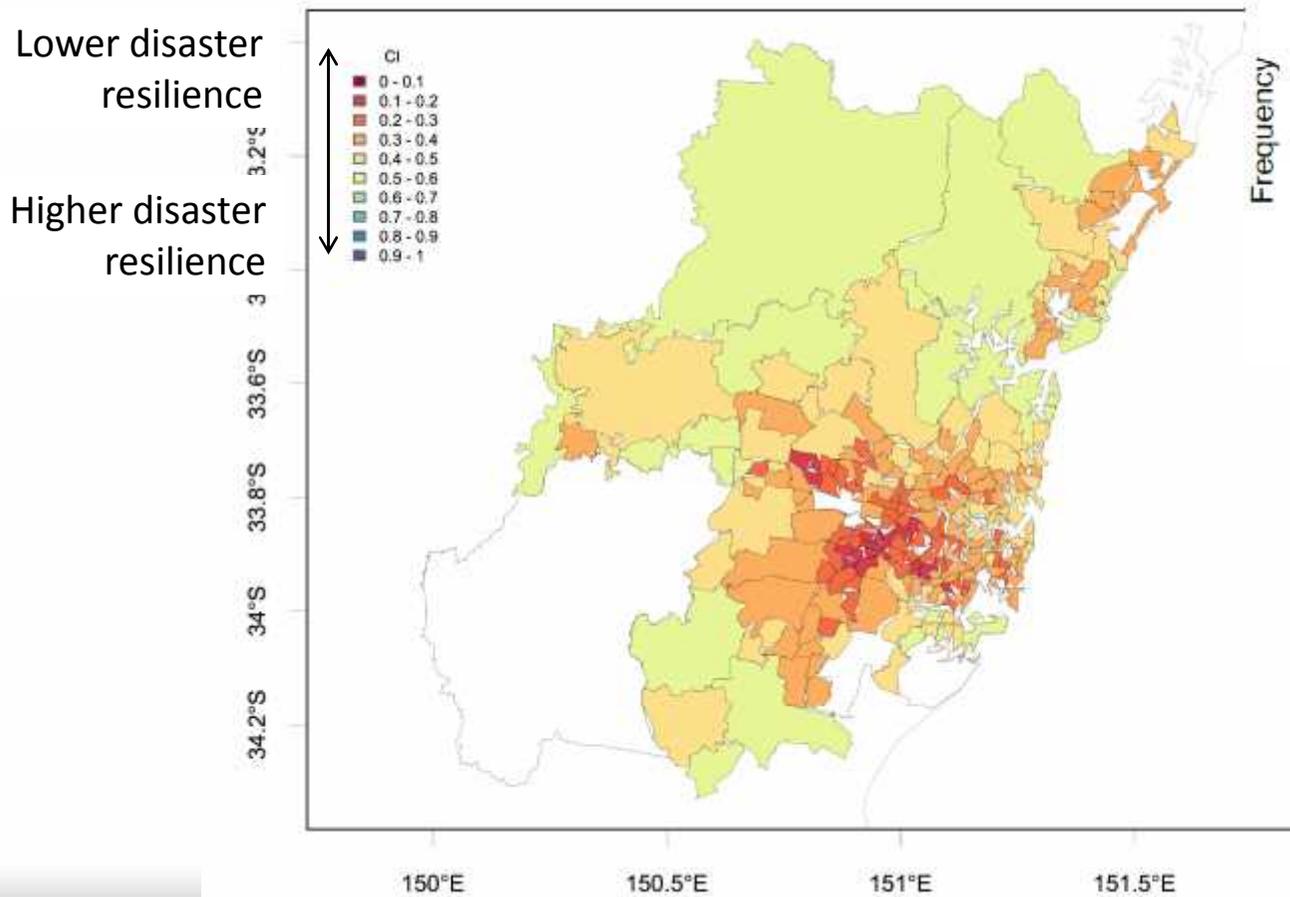


Based on 17 indicators of:

- Migration
- Language proficiency
- Household & family composition
- Need for assistance
- Education
- Employment

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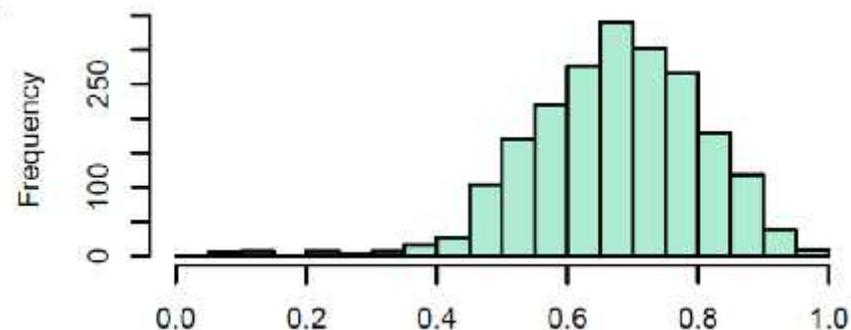
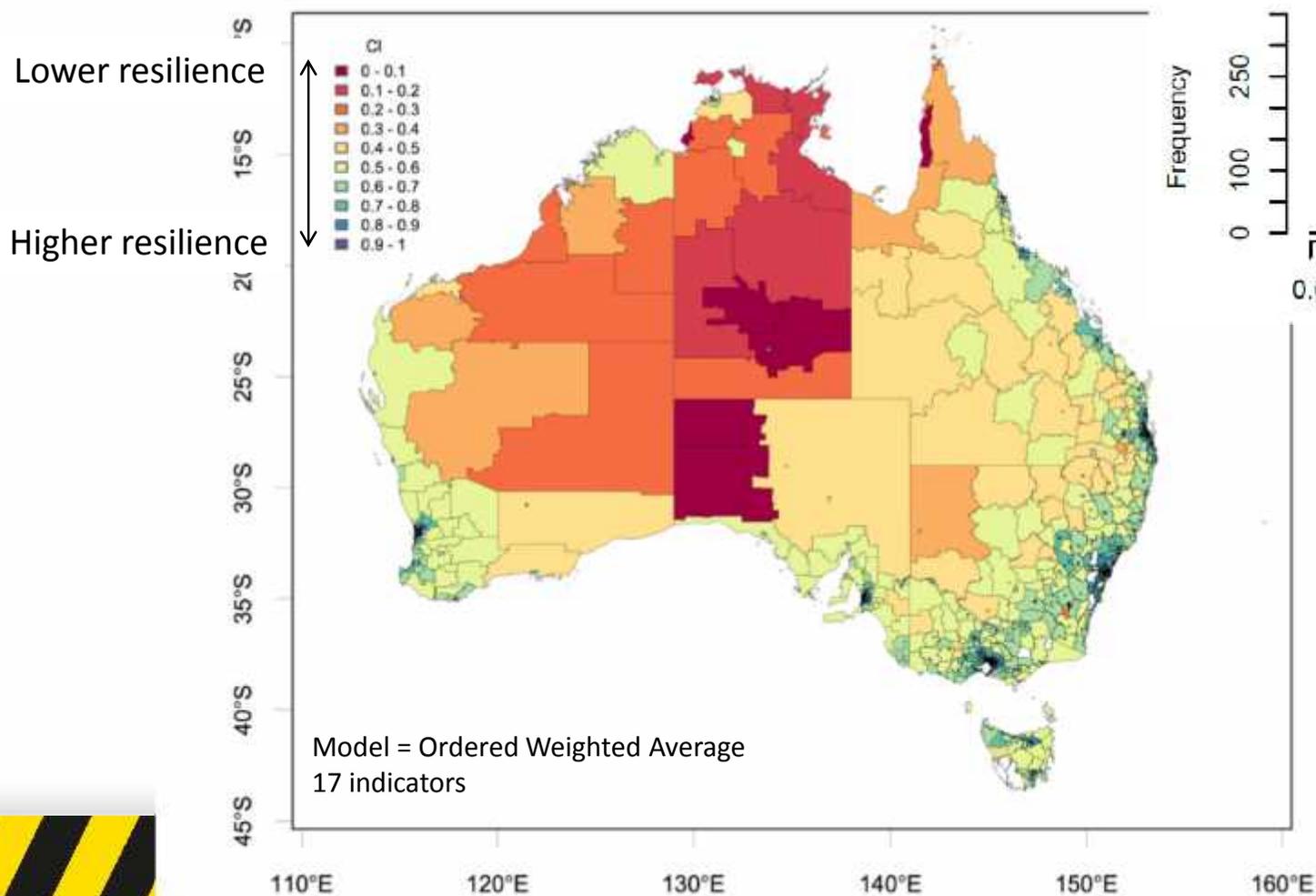


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INDEX – ECONOMIC CAPITAL THEME

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

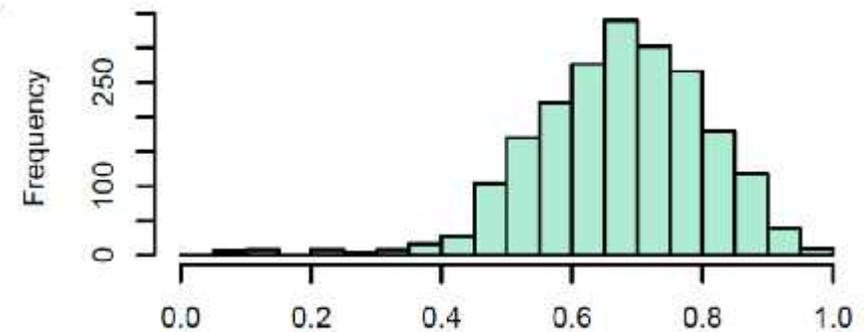
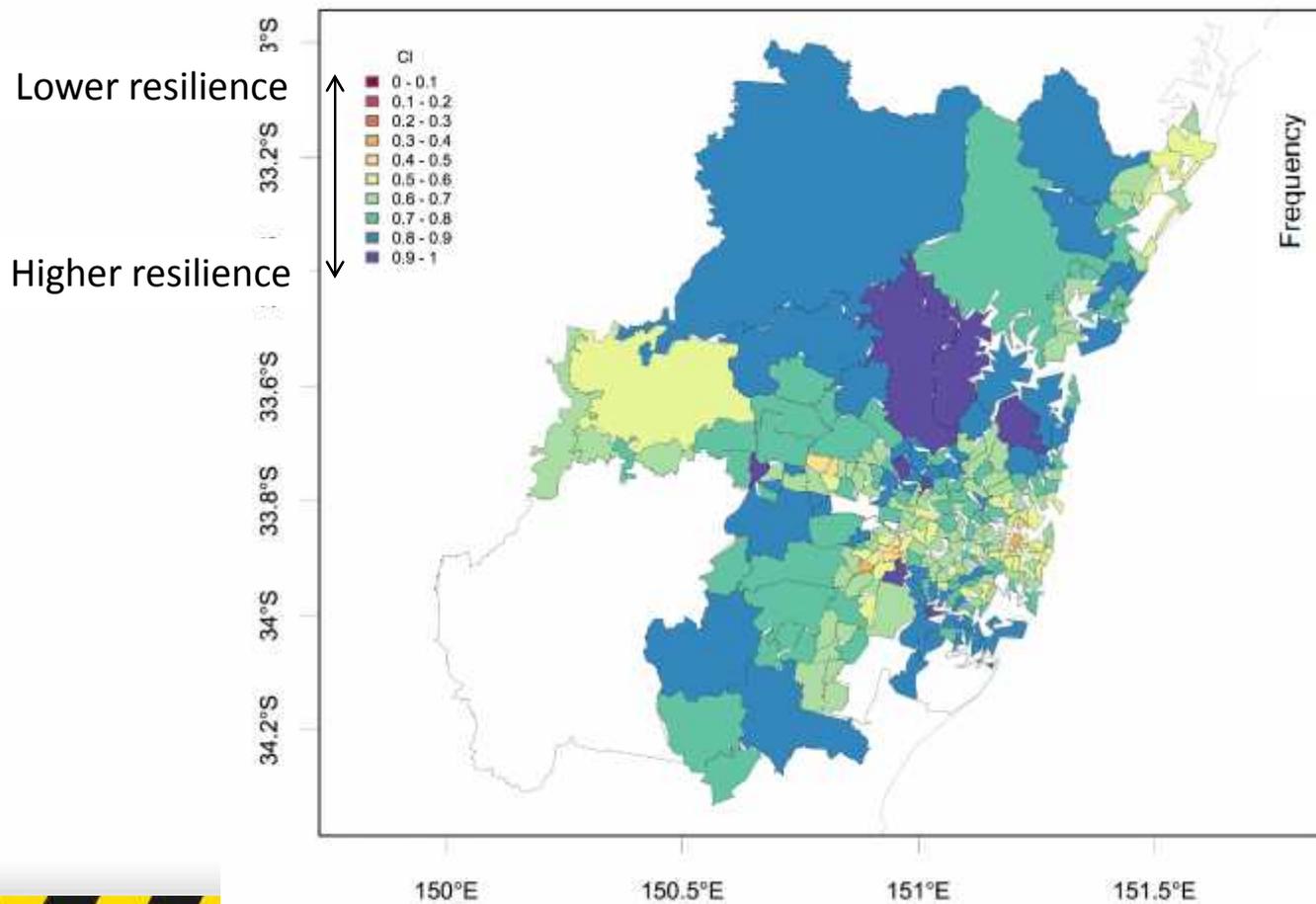


Based on 17 indicators of:

- Home ownership
- Income
- Economic diversity
- Business activity
- Economic inequality

INDEX – ECONOMIC CAPITAL THEME

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



Based on 17 indicators of:

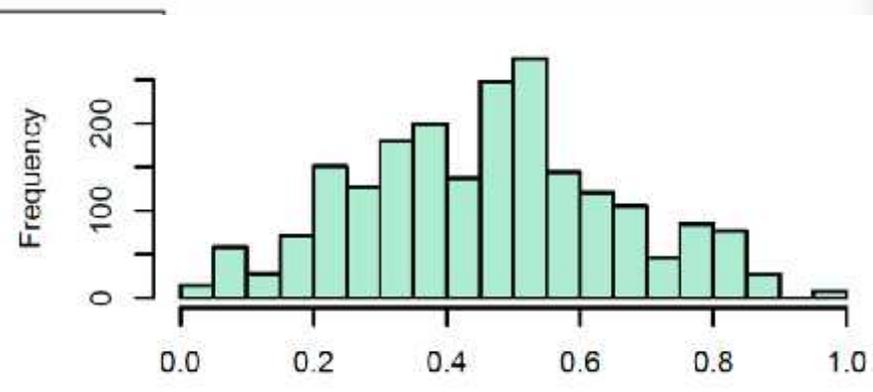
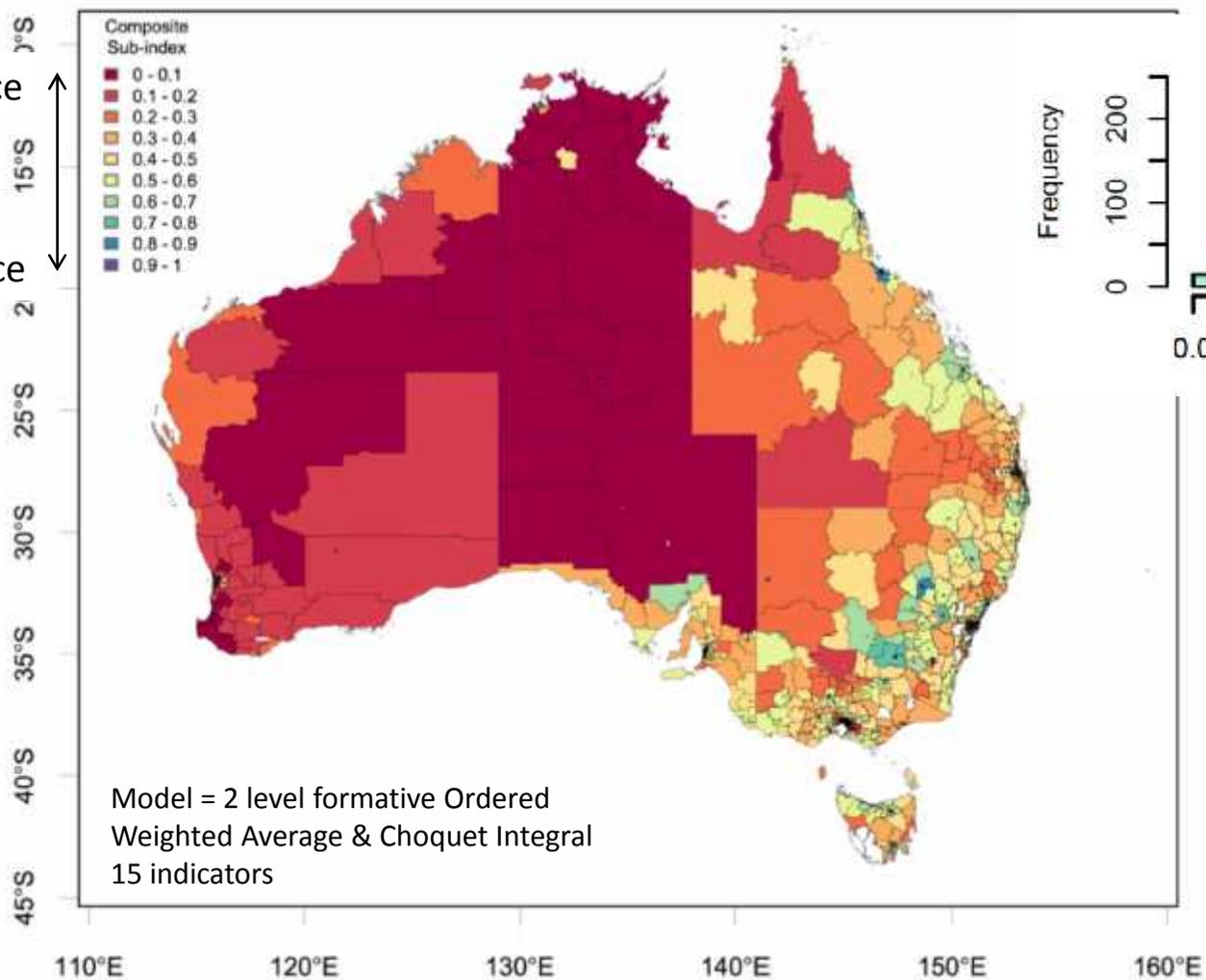
- Home ownership
- Income
- Economic diversity
- Business activity
- Economic inequality

INDEX – EMERGENCY SERVICES THEME

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

Lower resilience

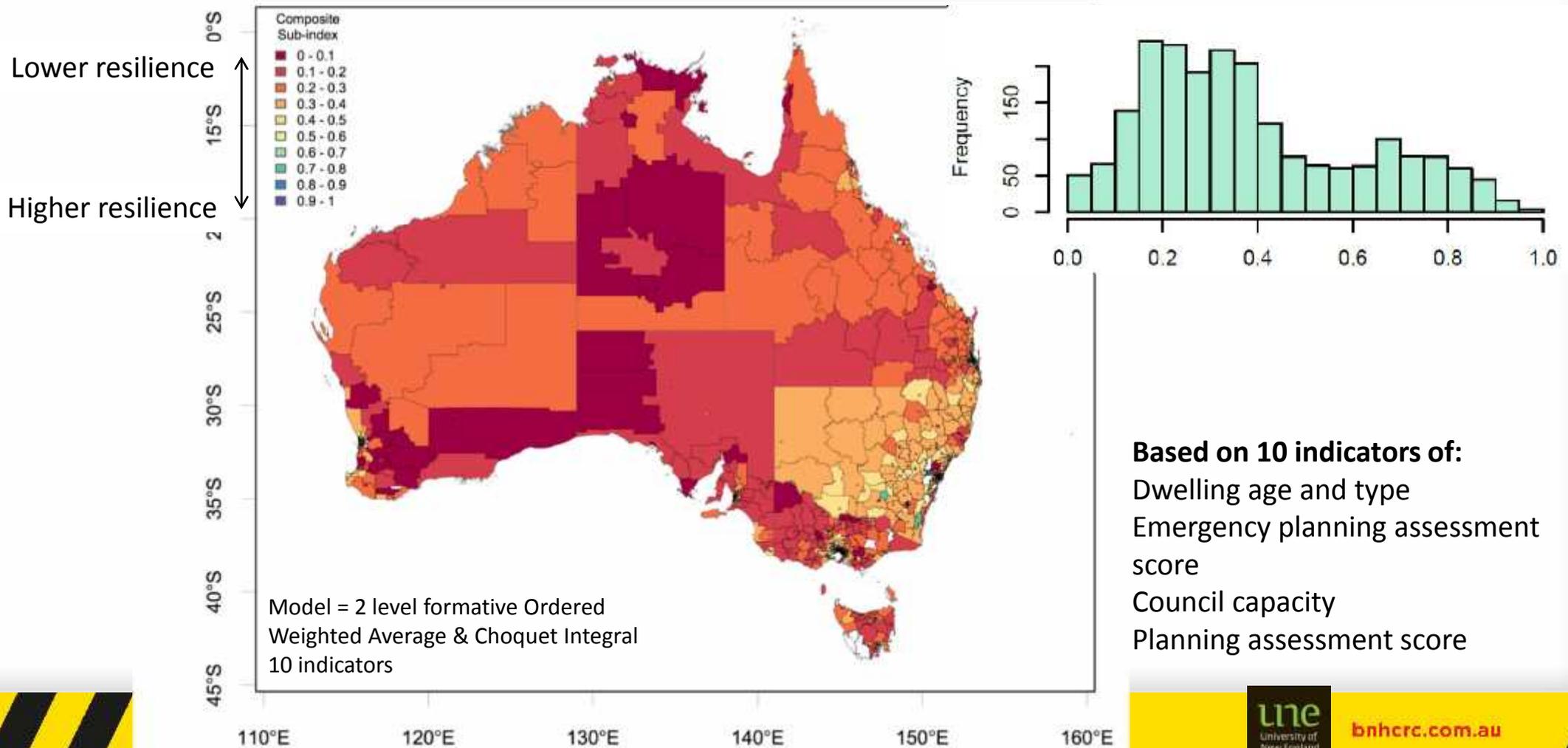
Higher resilience



Based on 15 indicators of:
Health workforce
Emergency service workforce
Emergency service funding per capita
Remoteness

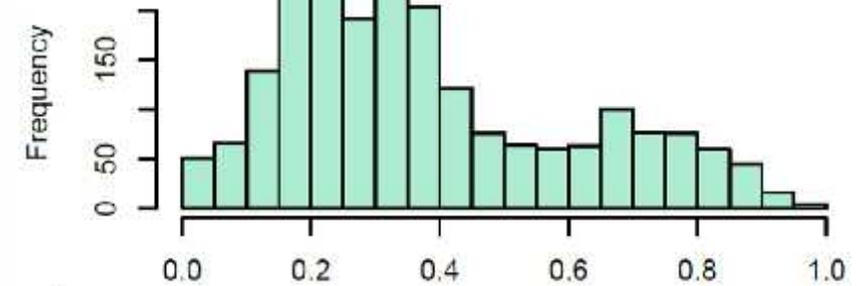
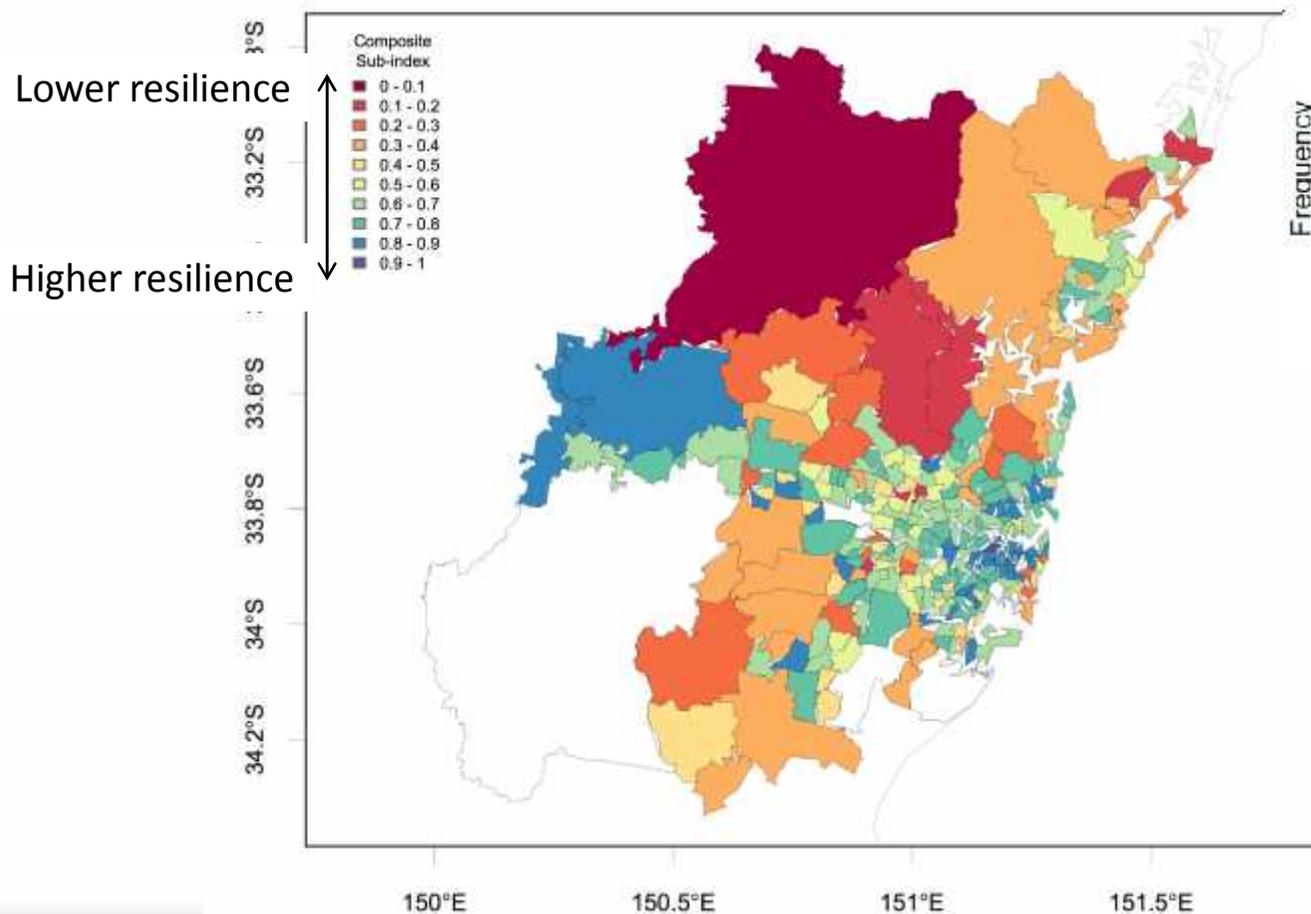
INDEX – INFRASTRUCTURE AND PLANNING THEME

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



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

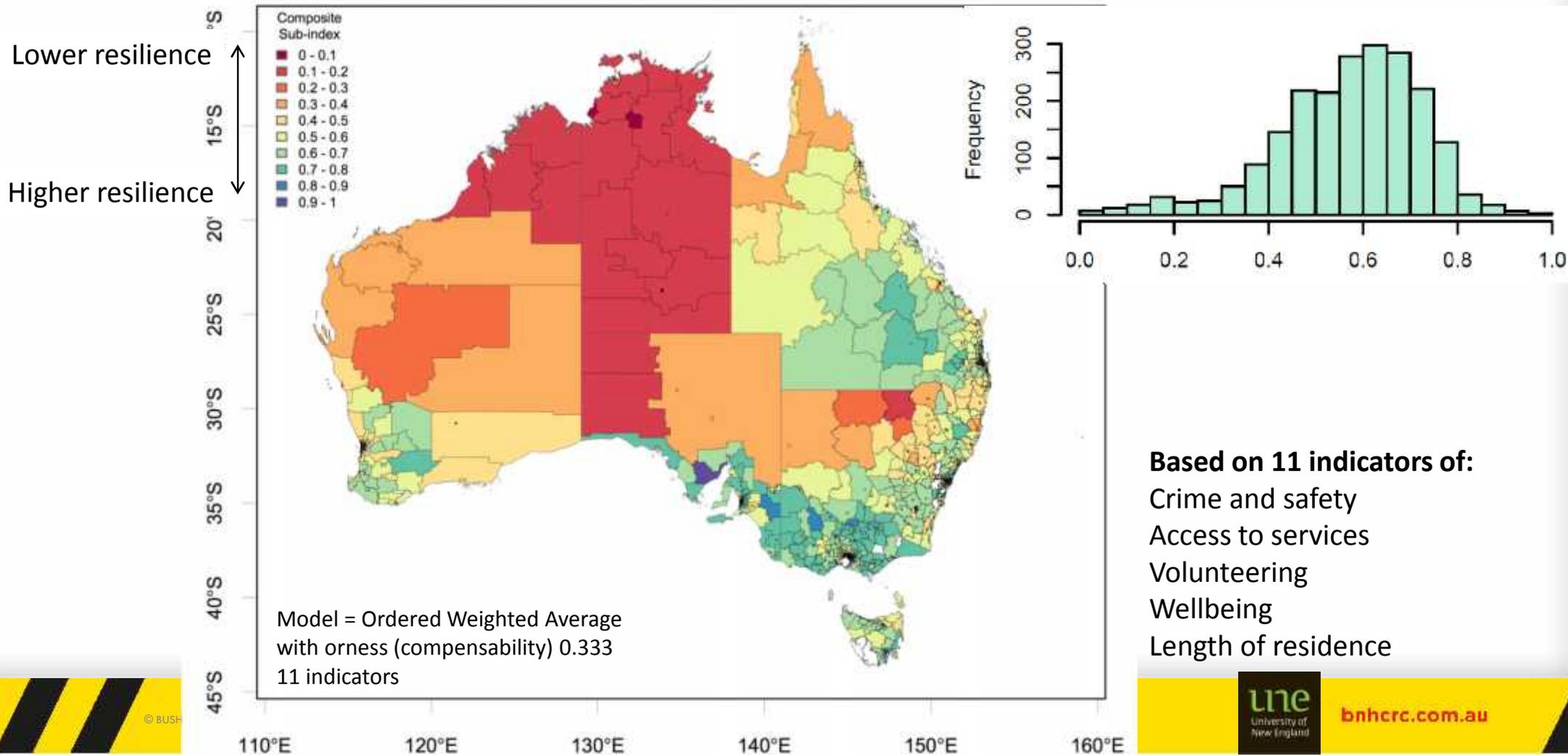


Based on 10 indicators of:

- Dwelling age and type
- Emergency planning assessment score
- Council capacity
- Planning assessment score

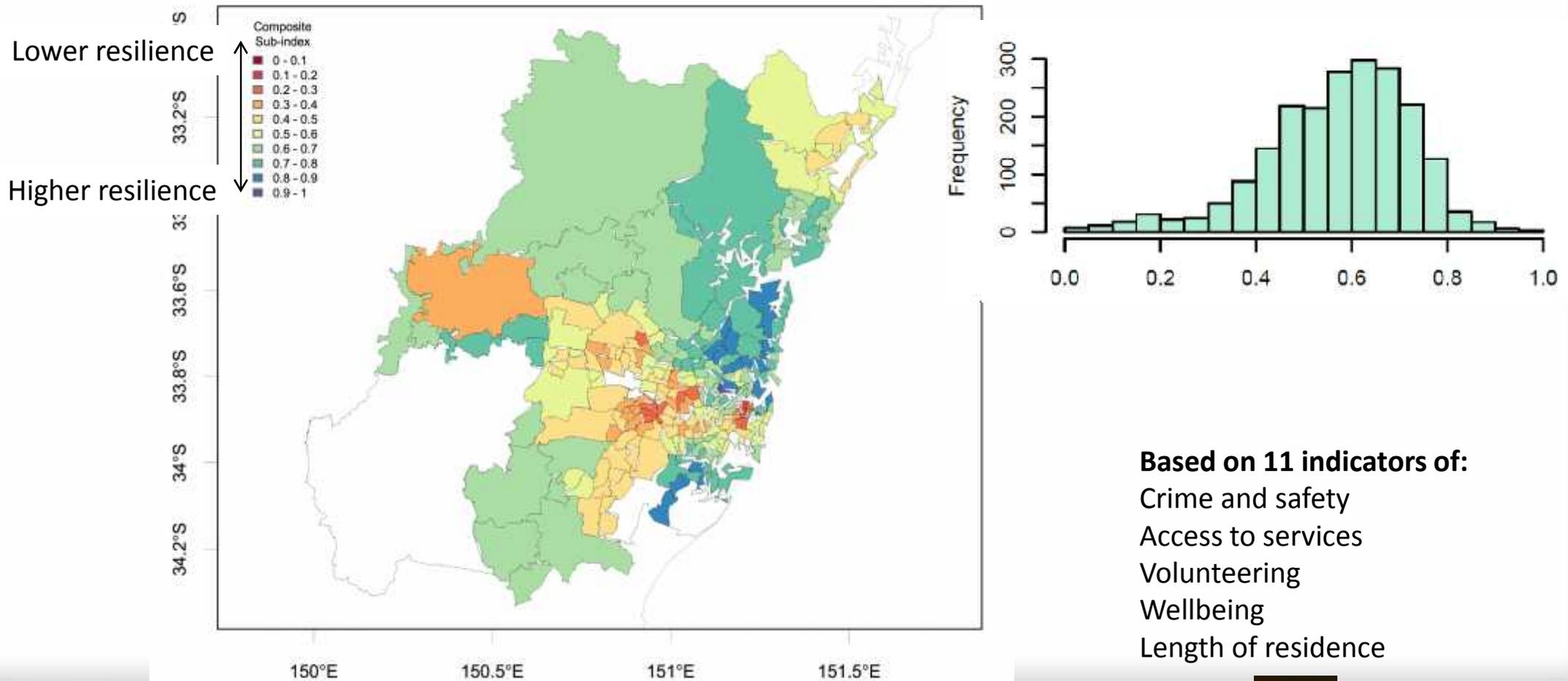
INDEX – COMMUNITY CAPITAL THEME

Capacity for cohesion, connectedness and coordination for mutual benefit



INDEX – COMMUNITY CAPITAL THEME

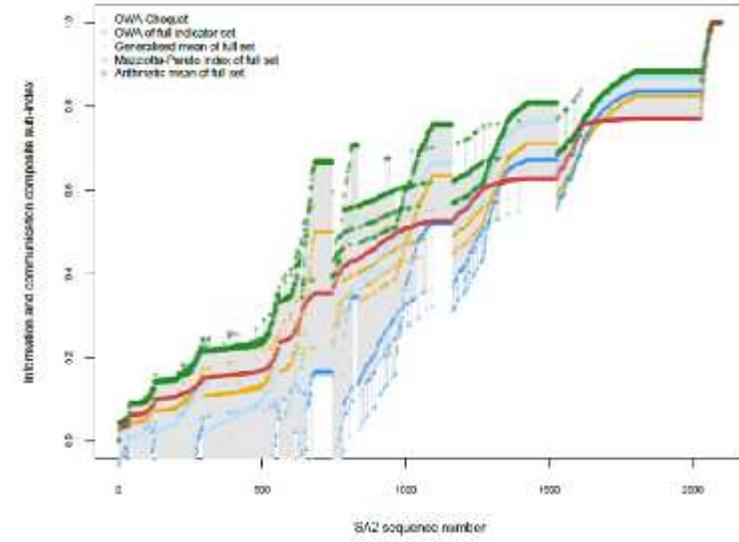
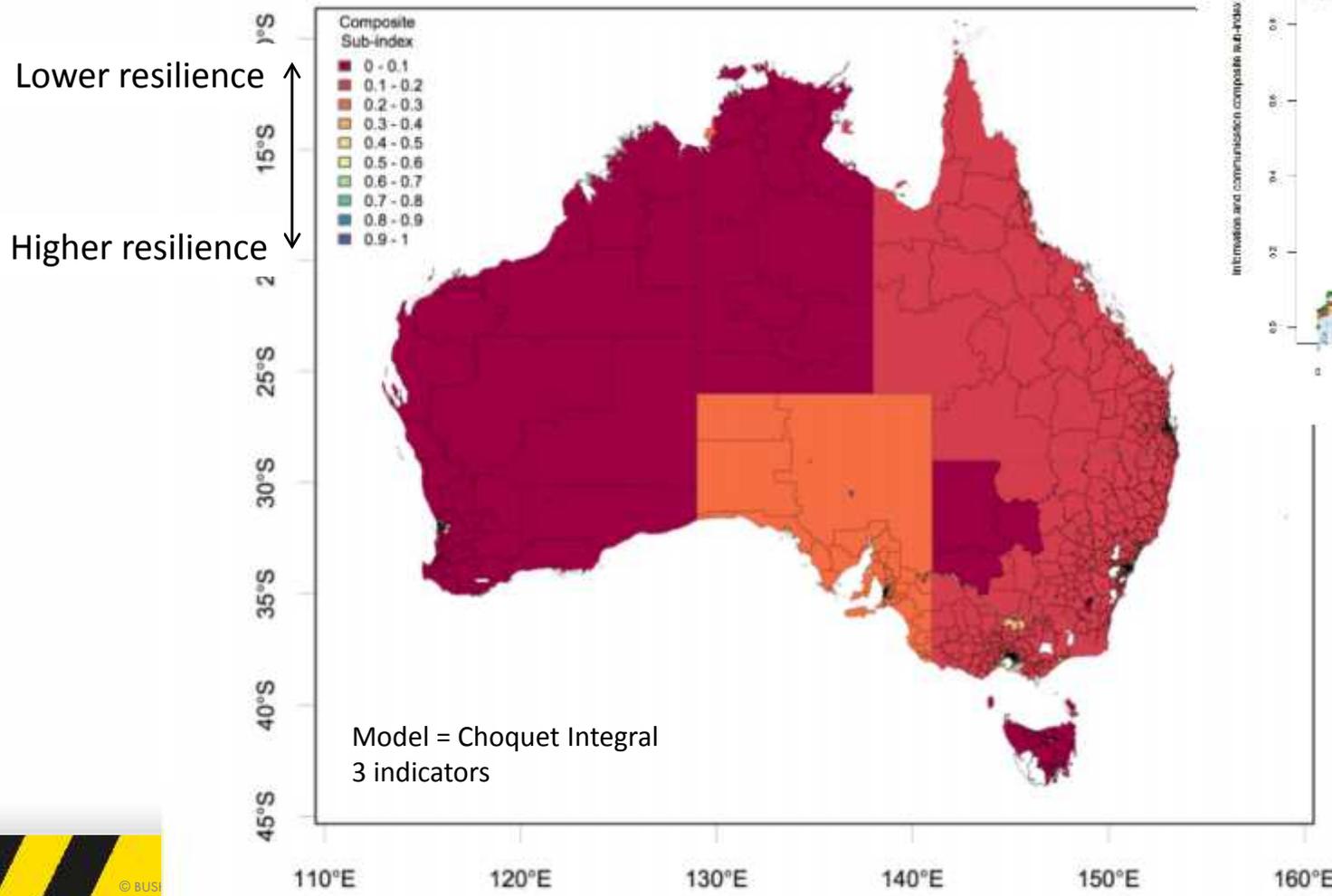
Capacity for cohesion, connectedness and coordination for mutual benefit



Based on 11 indicators of:
Crime and safety
Access to services
Volunteering
Wellbeing
Length of residence

INDEX – INFORMATION AND ENGAGEMENT THEME

Capacity to interact with information about natural hazards

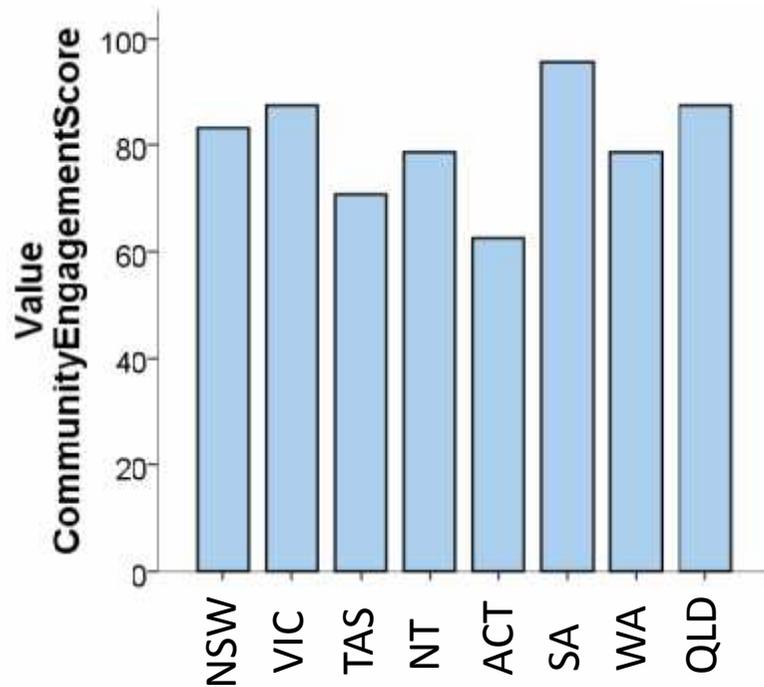


Based on 3 indicators of:
 ADSL coverage
 Mobile phone coverage
 Community engagement assessment score

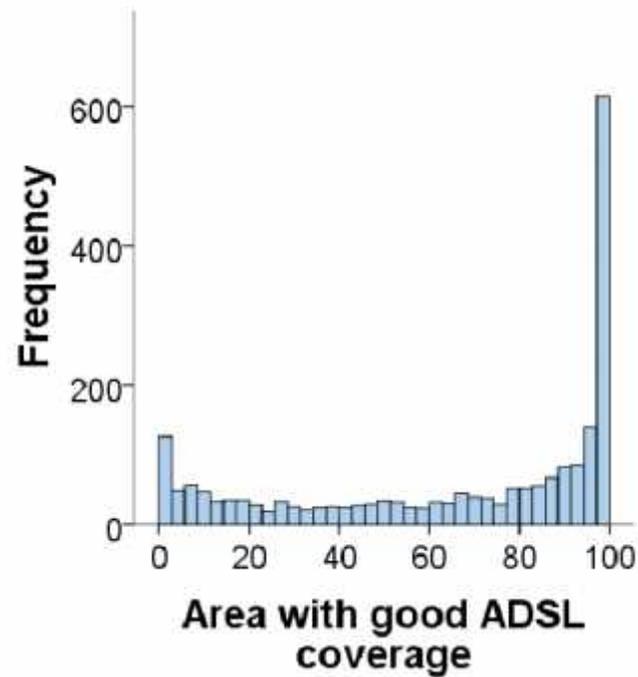


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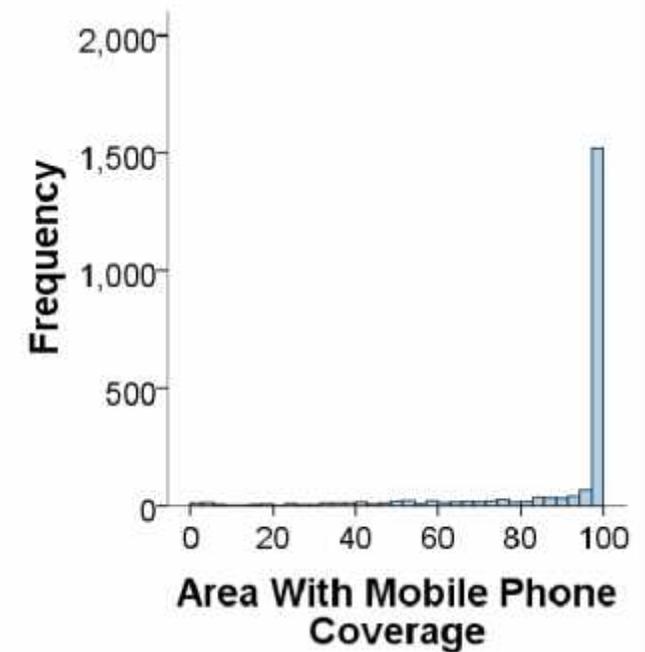
INDEX – INFORMATION AND ENGAGEMENT THEME



State-level data



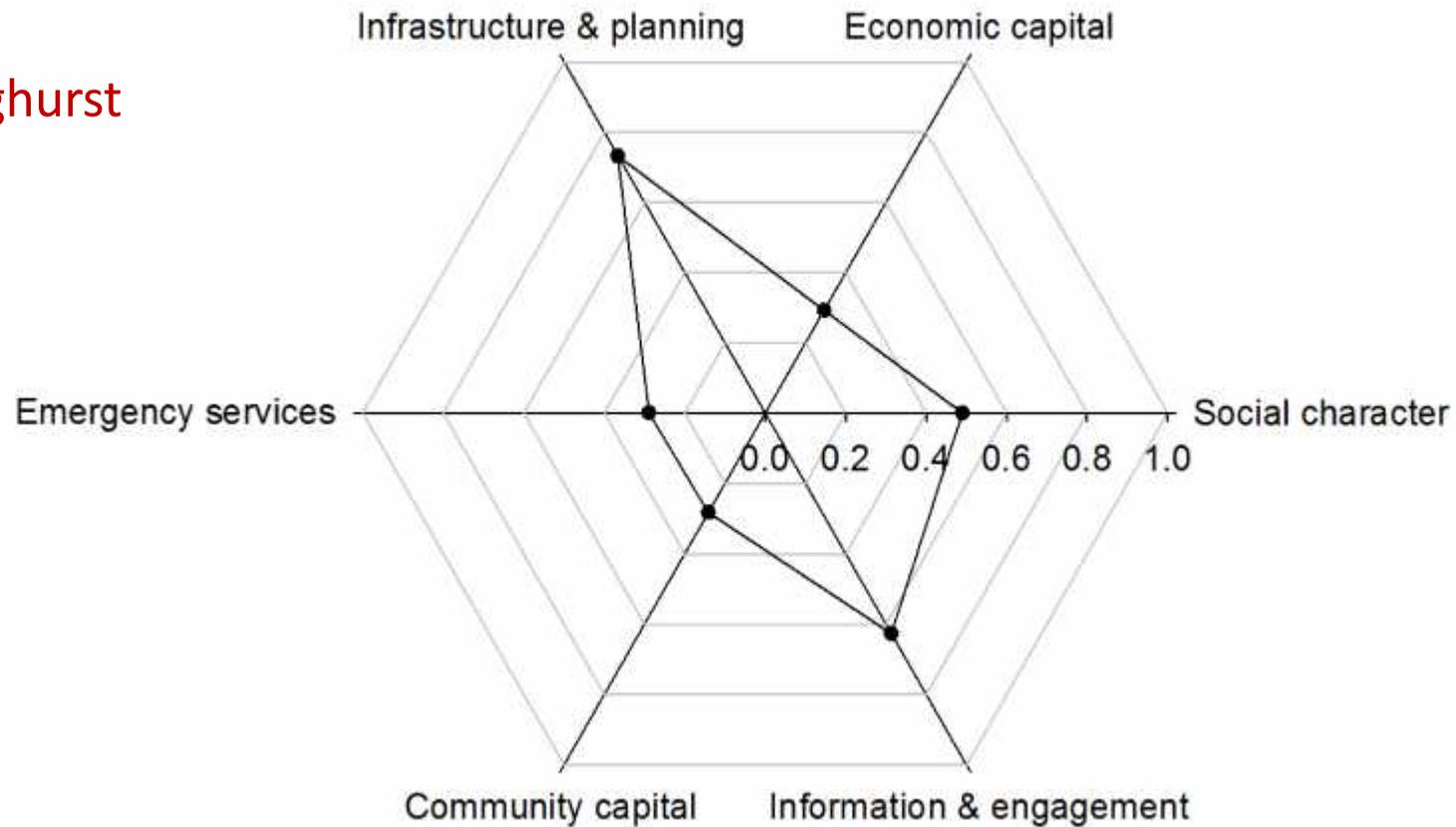
SA2 level data



SA2 level data

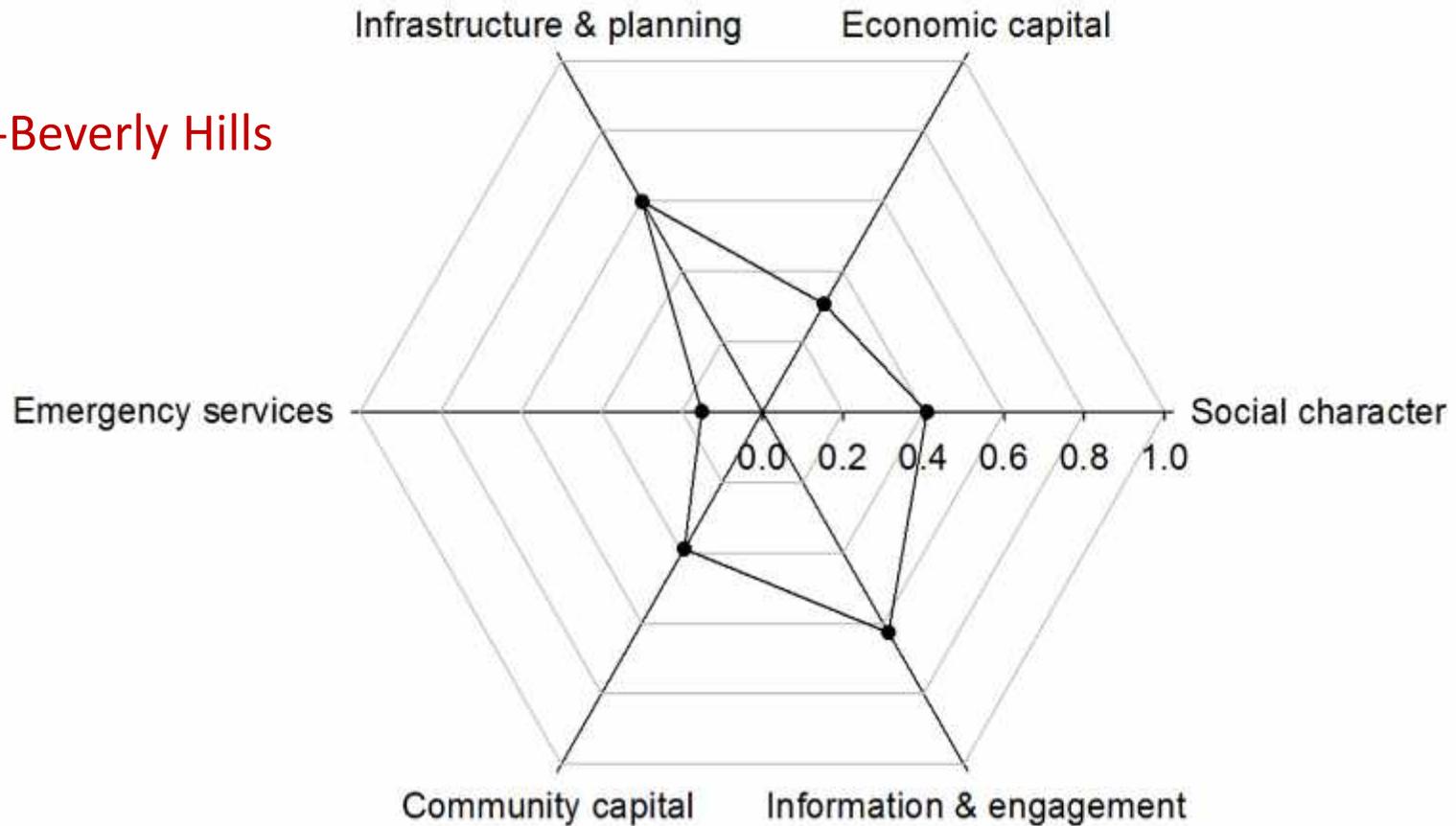
BRINGING IT ALL TOGETHER

Darlinghurst



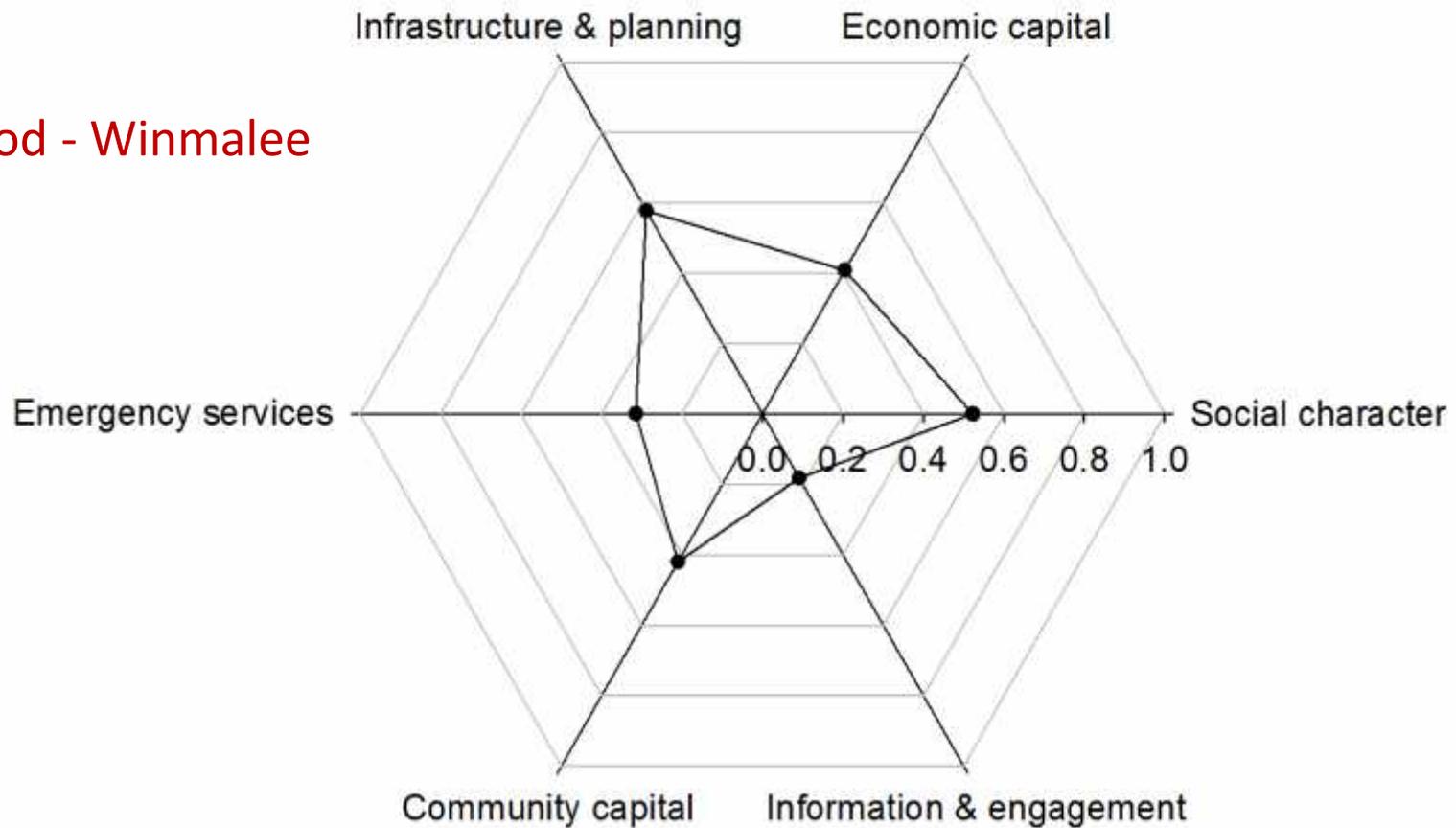
BRINGING IT ALL TOGETHER

Narwee-Beverly Hills

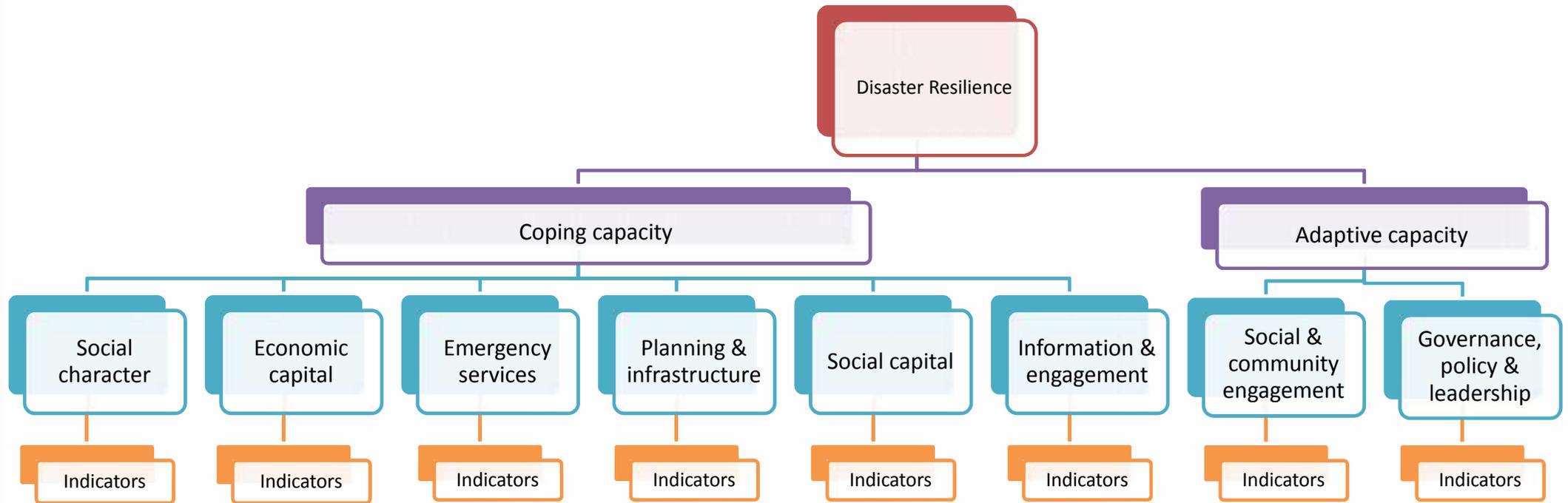


BRINGING IT ALL TOGETHER

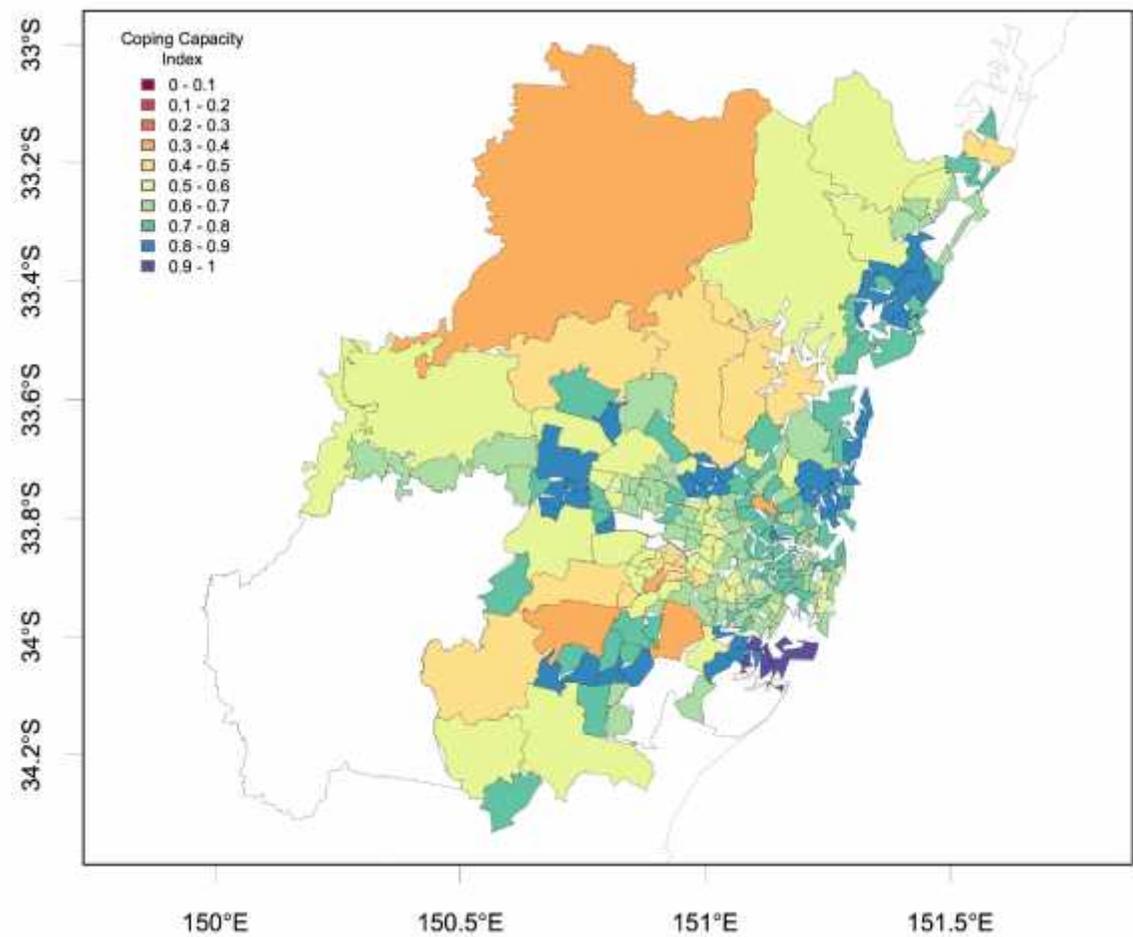
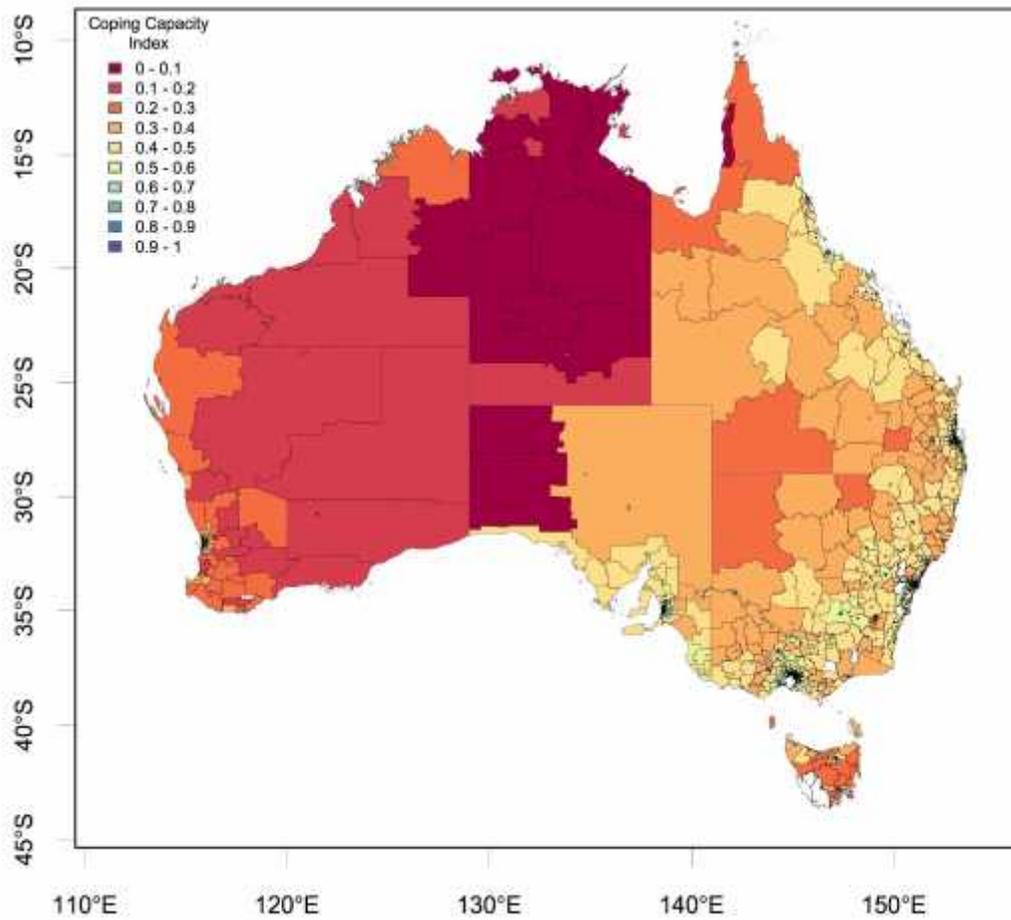
Springwood - Winmalee



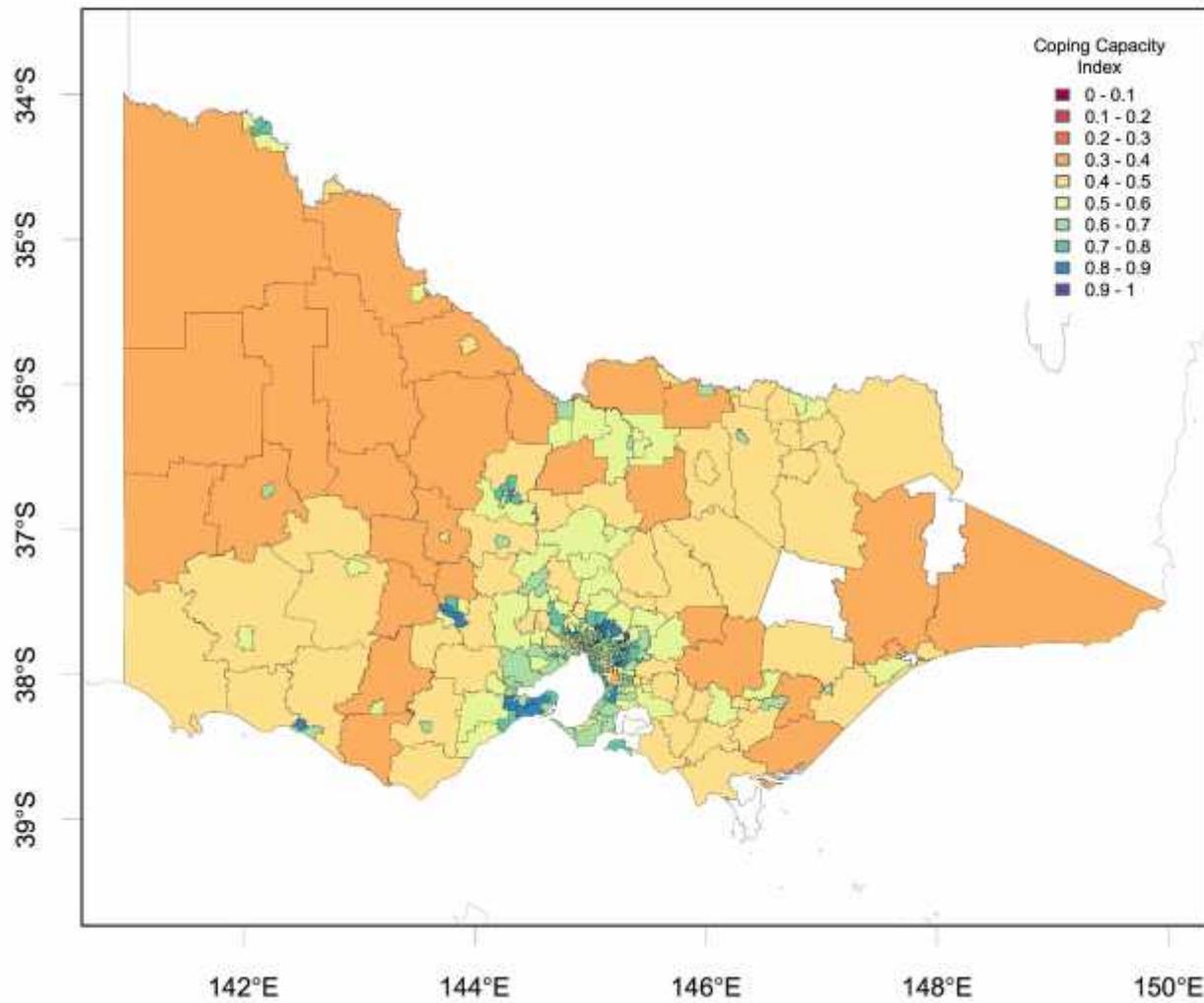
BRINGING IT ALL TOGETHER



COPING CAPACITY INDEX



COPING CAPACITY INDEX



NEXT STEPS

- 1) Refine index
- 2) Sensitivity analysis
- 3) Interpretations and framings of disaster resilience index results for the State of Disaster Resilience Report (with end-users)
- 4) Consult with NT/WA colleagues about interpreting trends in Northern Australia