

Exploring the Risks and Impacts of Climate Change on Australia: Human Health, Disasters and Communities

*Australian Climate Roundtable
12 May 2020*



Topics

Time	Topic
09:00 am	Start
09:05 am	Welcome, Overview and Purpose
09:10 am	Speaker 1: Dr Robert Glasser, Visiting Fellow, Australian Strategic Policy Institute – Climate Change, Natural Disasters and Communities
09:35 am	Discussion / Q&A
10:00 am	Speaker 2: John Richardson, National Resilience Adviser, Australian Red Cross – Climate Change, Health and Communities
10:25 am	Discussion
10:50 am	BREAK – mute if you keep Skype running
11:00 am	Facilitated discussion: Implications for the Australian Climate Roundtable
12:00 pm	Close

Overview and Purpose



Climate change, natural disasters and community

Presentation for Australian Climate Roundtable Workshop

Dr. Robert Glasser, Australian Strategic Policy Institute (ASPI)



Outline:

1. Touch on a few climate science findings
2. Compound hazards and cascading impacts
3. Building “Resilient Australia”
4. Reasons for optimism

Wujul Wujul Aboriginal Shire Council



credit: Wujul Wujul Shire Council

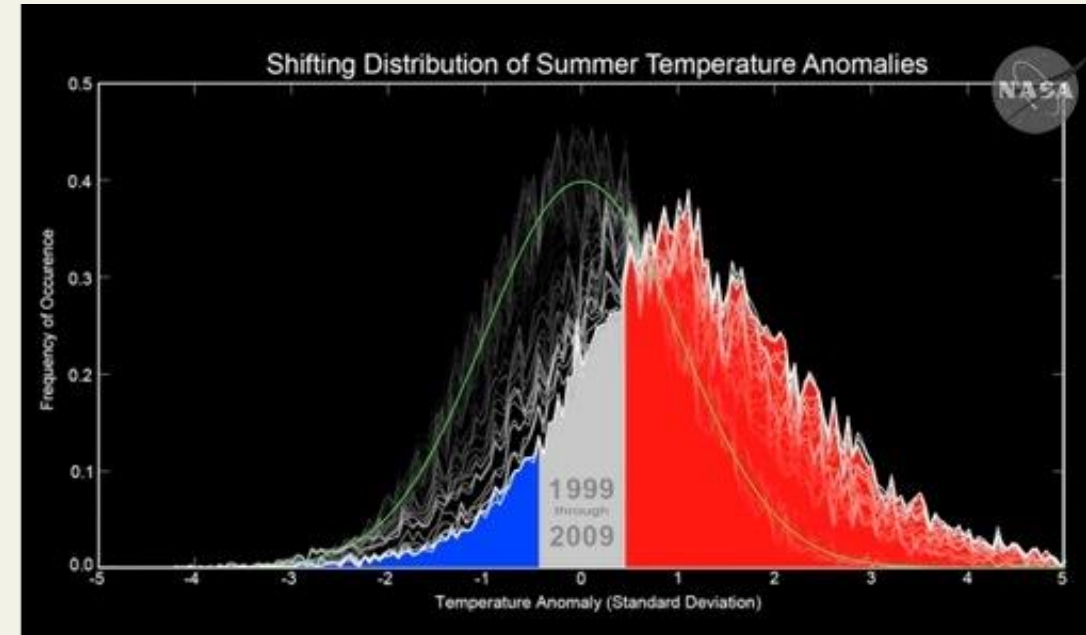
Climate science findings

1. Even “small” changes in temperature have big impacts on hazards, which in turn have big impacts on communities.
2. We will be surprised: Changes are happening non-linearly.
3. Warming of at least 1.5 degrees is already locked-in.

Climate science findings

“Small” changes = big impact

- Extreme heat events increased 20-fold over last 10 years, relative to previous 30 years (IAG/Hansen)
 - From less than 1 degree C of warming
 - Over 3 degrees of warming is likely



NASA and Hansen, Sato, Ruedy in PNAS

Climate science findings

“Small” changes = big impacts

- Extreme flooding:
 - Sea-level rise
 - 10cm rise= 1-in-100-year event, becomes 1-in-33-year event
 - 20cm rise= 1-in-11-year event
 - Soon *annual* event in many places
 - Over 30 cm rise by 2050 (IPCC).

Climate science findings

“small” changes = big impact

IPCC Report: difference between 1.5 and 2.0 degrees warming:

- 50% increase in water stress
- 420 million more people exposed to extreme heatwaves
- Up to 270 million more to water scarcity
- 10X increase in vulnerable people exposed to decrease in crop yields (8-81 million)
 - jumping 30X at 3 degrees of warming
- 100 million people fall into poverty

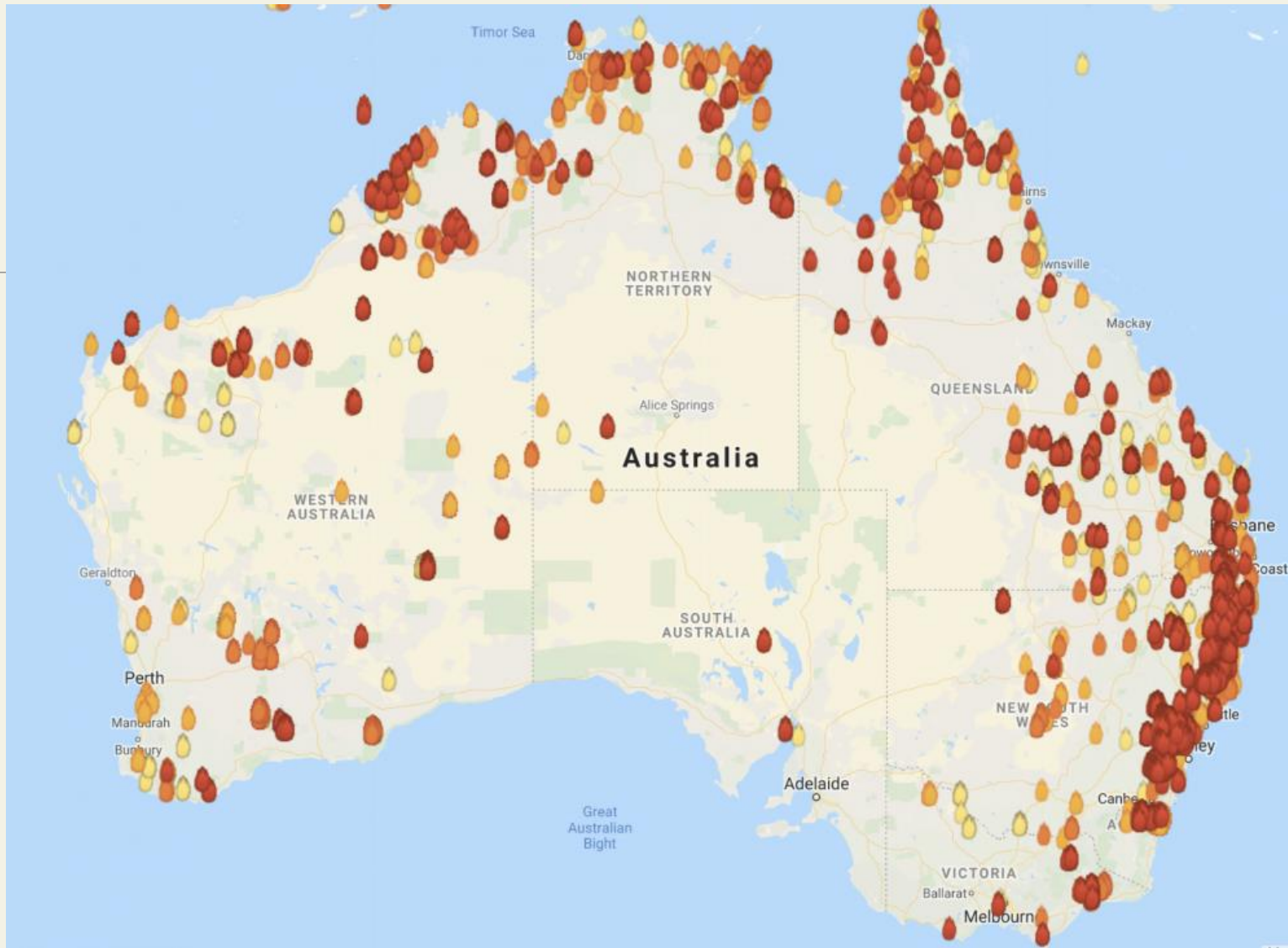
Compound Hazards and Cascading impacts

A significantly overlooked threat

- Most scientific assessments IPCC underestimate actual societal impacts
 - It's technically difficult to study: research treats hazards as independent variables.
- Climate change is increasing risk of compound events and cascading impacts:
 - Increasing the severity and frequency of sudden-onset hazards, such as cyclones, floods and bushfires.
 - Changing the patterns (bushfire season, cyclone tracks, flood zones—e.g. Hurricane Harvey)
 - Interactions with slow-onset hazards

Compound Hazards and Cascading Impacts

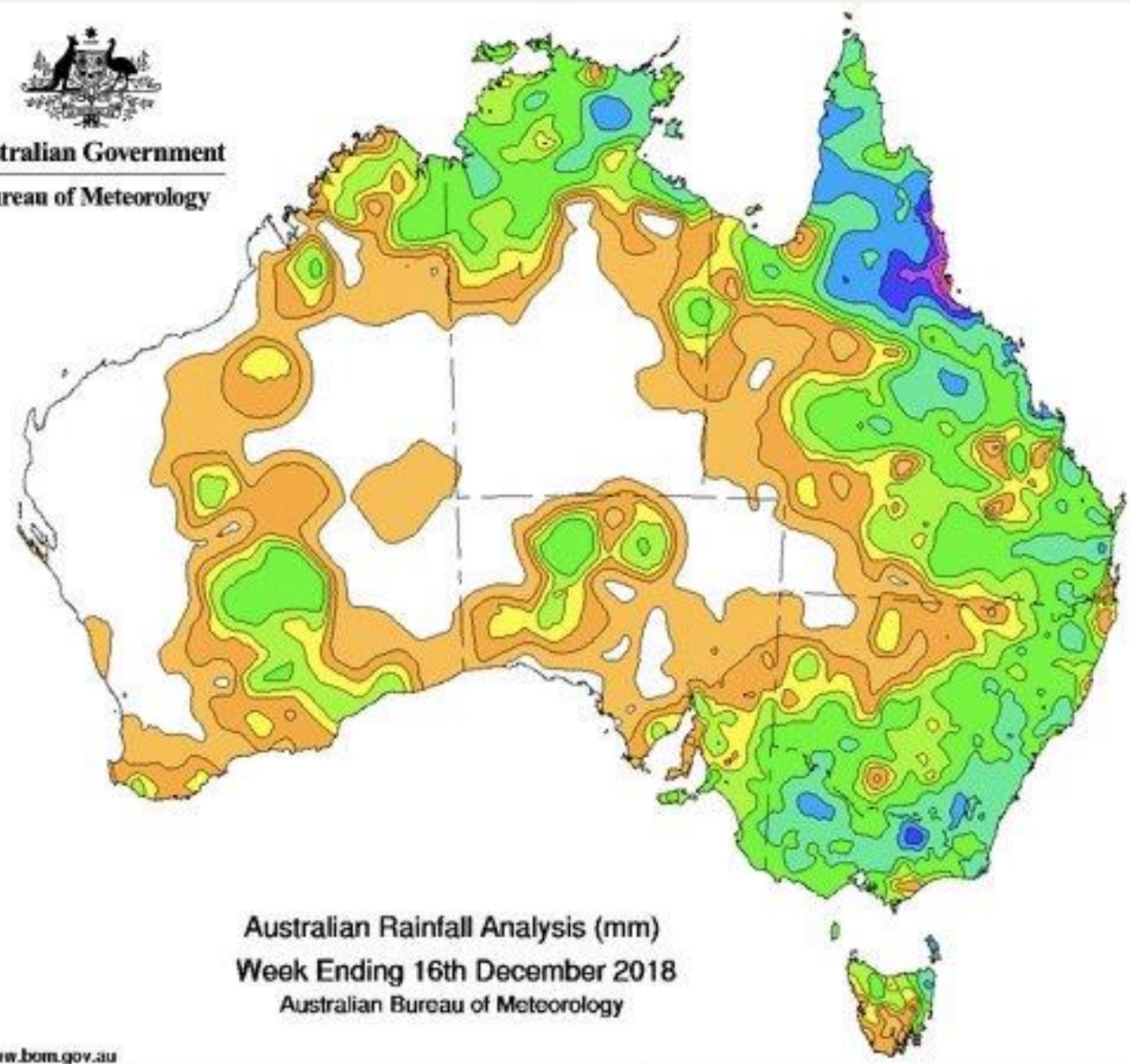
- Increasing compound hazards and cascading impacts in Australia
 - 2020 Bushfire Crisis
 - Queensland Summer 2018/19
 - Tasmania Summer 2015/16.



2020 Bushfire Crisis



Australian Government
Bureau of Meteorology

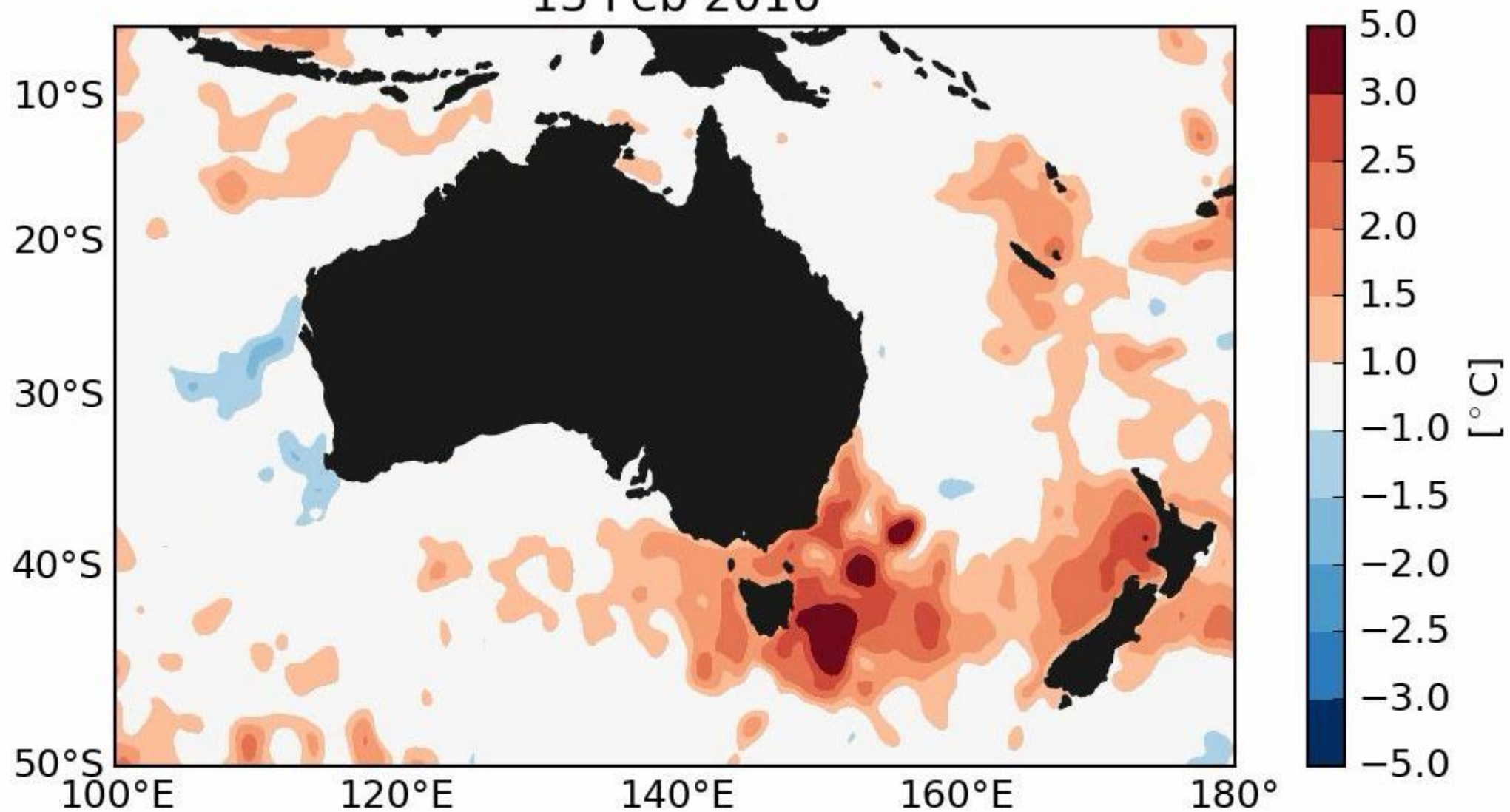


Australian Rainfall Analysis (mm)
Week Ending 16th December 2018
Australian Bureau of Meteorology

<http://www.bom.gov.au>

Queensland Summer 2018/19

13 Feb 2016



Tasmania Summer 2015/16

Building Community Resilience: International examples

- Some great success stories Internationally and regionally
 - (Regional impacts—food security, political stability, climate refugees—will affect Australia)
 - Low tech: Vietnam: evacuation mounds, chicken to ducks
 - Thailand: “Monkey’s cheeks”
 - High-tech: SM Prime Philippines Manila Mall designed and built for floods

Building community resilience

- Increasingly urgent: Over half of QLGA's 3 or more disasters in three years
- Good frameworks and strategies: NFDRR, DRFA, State resilience strategies
- Objective: Incorporate C&DR in core economic planning and investments at all levels (missing data on: compounding hazards and cascading impacts)
- Reality: Small pots of money, siloed, not mainstreamed. Incremental progress.

Building Community Resilience

- Australian local communities:
 - Human nature: example of “Gateway to the Whitsunday Isles”
 - What is “resilience”? jobs and/or seawalls
 - For some communities, DRR is core business, but not for others.
 - Same dynamic at state, federal and internationally (Bangladesh floods)

Reasons for optimism:

- Strong bi-partisan support in Australia for “resilience” (Future Drought Fund, ERF, etc)
- Climate mitigation is accelerating:
 - Renewables increasingly competitive
 - Financial Sector: pricing physical and transitional risk
 - Public opinion
- AND...need for action becoming abundantly clear and politically compelling due to increasing frequency, scale and impact of disasters:
 - 2020 Bushfires: About 60% Australians physically affected—unprecedented changes proposed by PM

Thanks.

The Human Impacts of Disaster

John Richardson

National Resilience Adviser

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Knowledge

@DRRDynamics



**KEEP CALM
AND REPEAT AFTER ME...
DISASTERS
ARE NOT
NATURAL**

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Context is the key



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Communities

“Every community is composed of a variety of organizations, encompassing all those—large, small, public, private—which are concerned with the on-going tasks maintaining community life.

They are, in effect, the normal problem solving arms of the community. In their daily activities, each of these organizations develops routine ways of handling their tasks, allocating their resources, making decisions, channelling communications, and maintaining their organization domains”.

Russell Dynes 1970

Human Impacts of Disaster

- Health
- Relationships
- Housing
- Livelihoods and costs
- Grief and loss

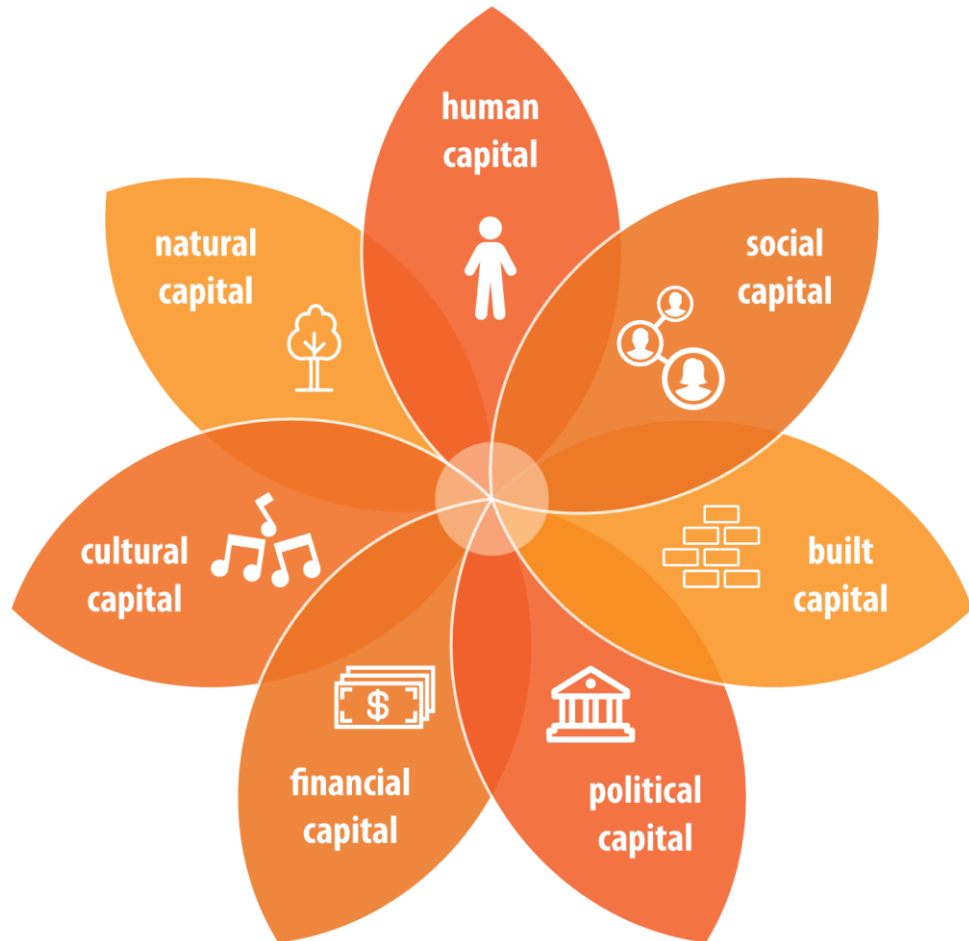


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Recovery Capitals

Supporting wellbeing after disasters



THE UNIVERSITY OF
MELBOURNE



MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

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Health

- Physical
- Mental health
- Wellbeing
- Childhood development
- Post traumatic growth



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Relationships

- Changes in relationship
- Violence

I SEE THE
VIOLENCE



Housing

- Relocation
- Rebuilding



Grief and loss

- Grief
- Loss
- Continuity

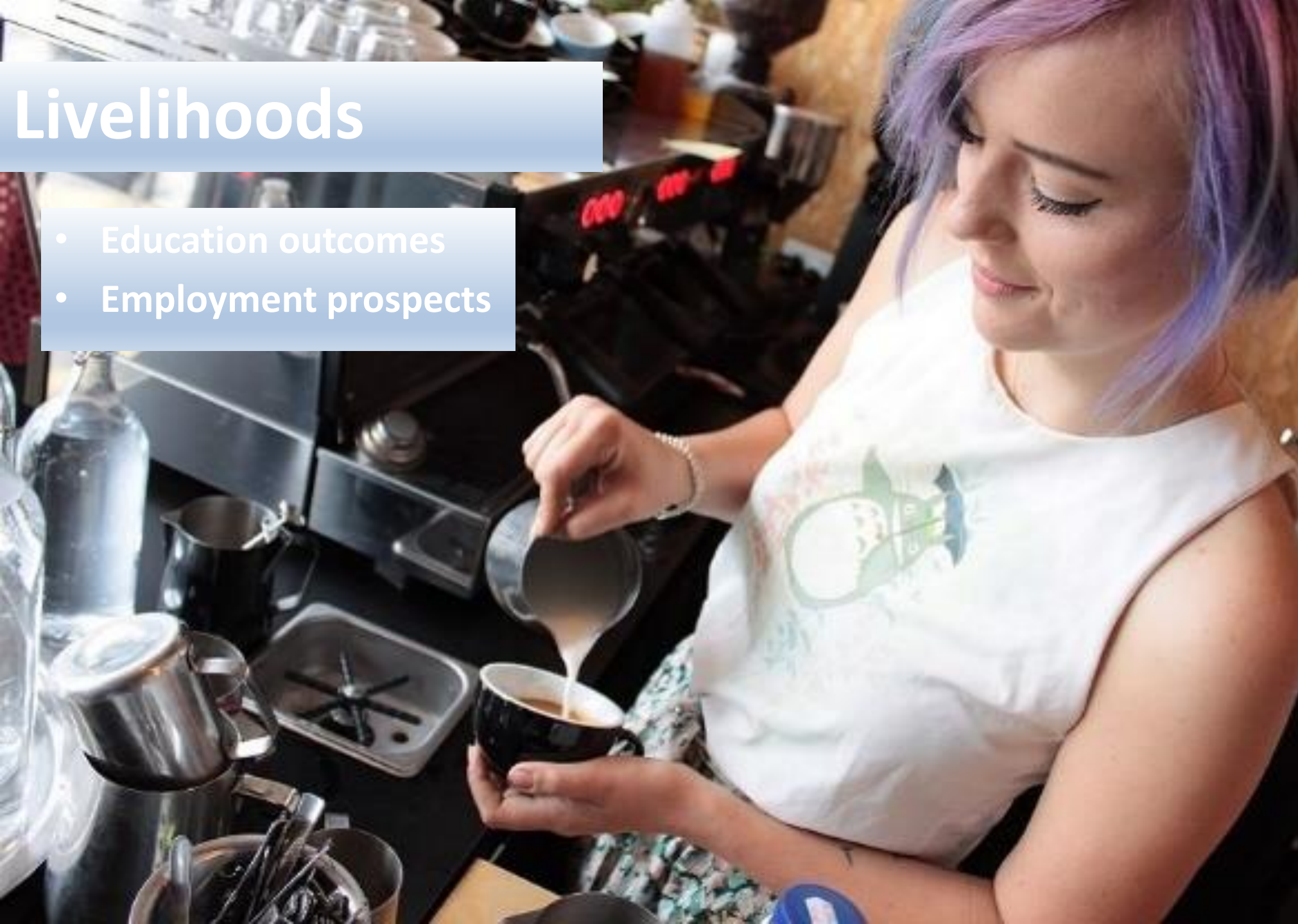


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Livelihoods

- Education outcomes
- Employment prospects



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Humanity



Social costs tend to **persist**
over a person's lifetime
while most tangible costs
are **one-off**

There people who are over represented in the statistics



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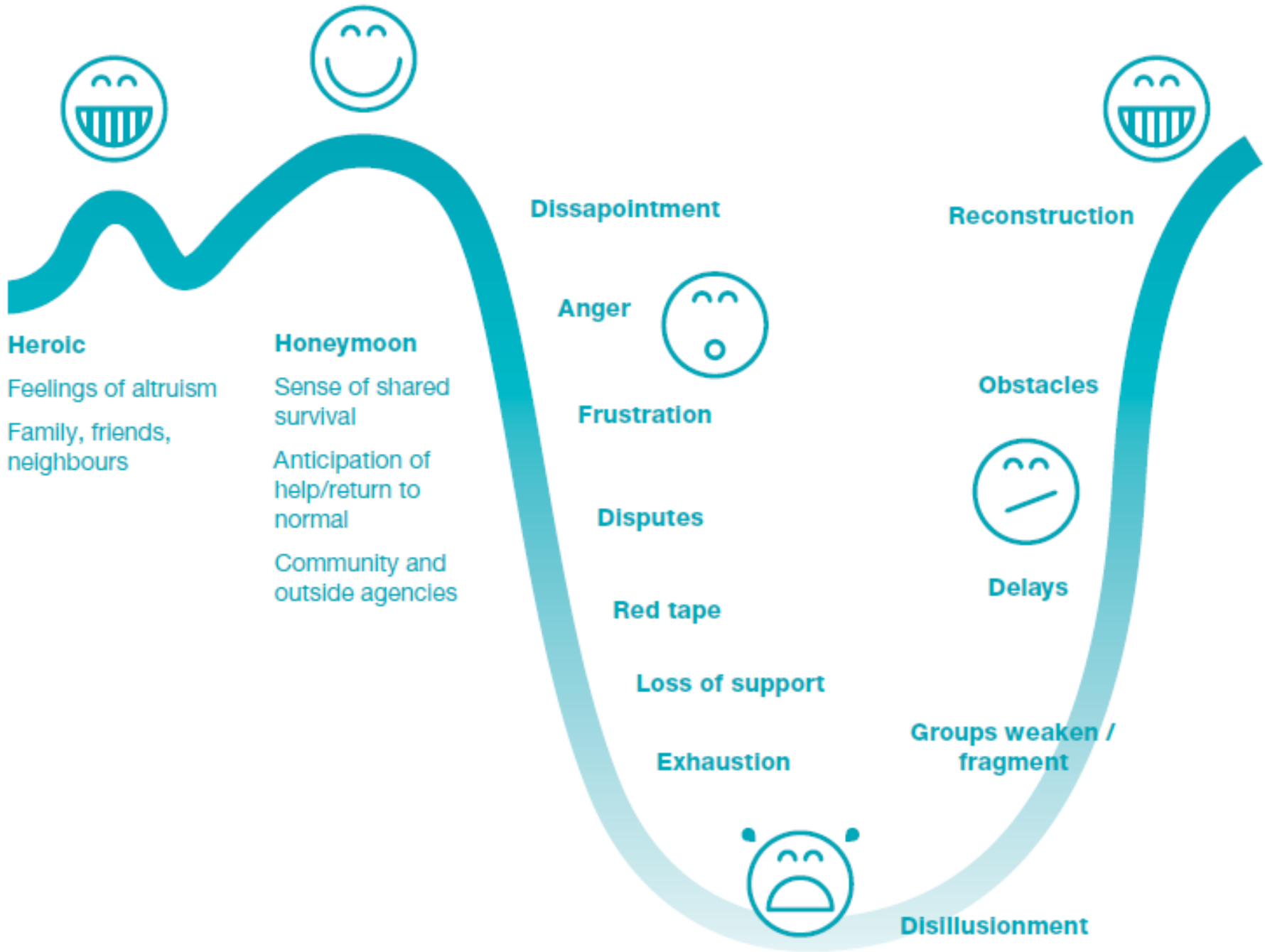




Human responses to disaster







the power of humanity



What happens to people?

- People are affected by emergencies in lots of different ways
 - Cognitively
 - Physically
 - Behaviourally
 - Emotionally
 - Socially
 - Existentially



What happens in community

- Structures and environment is changed
- Social capital is drawn on
- Community processes altered



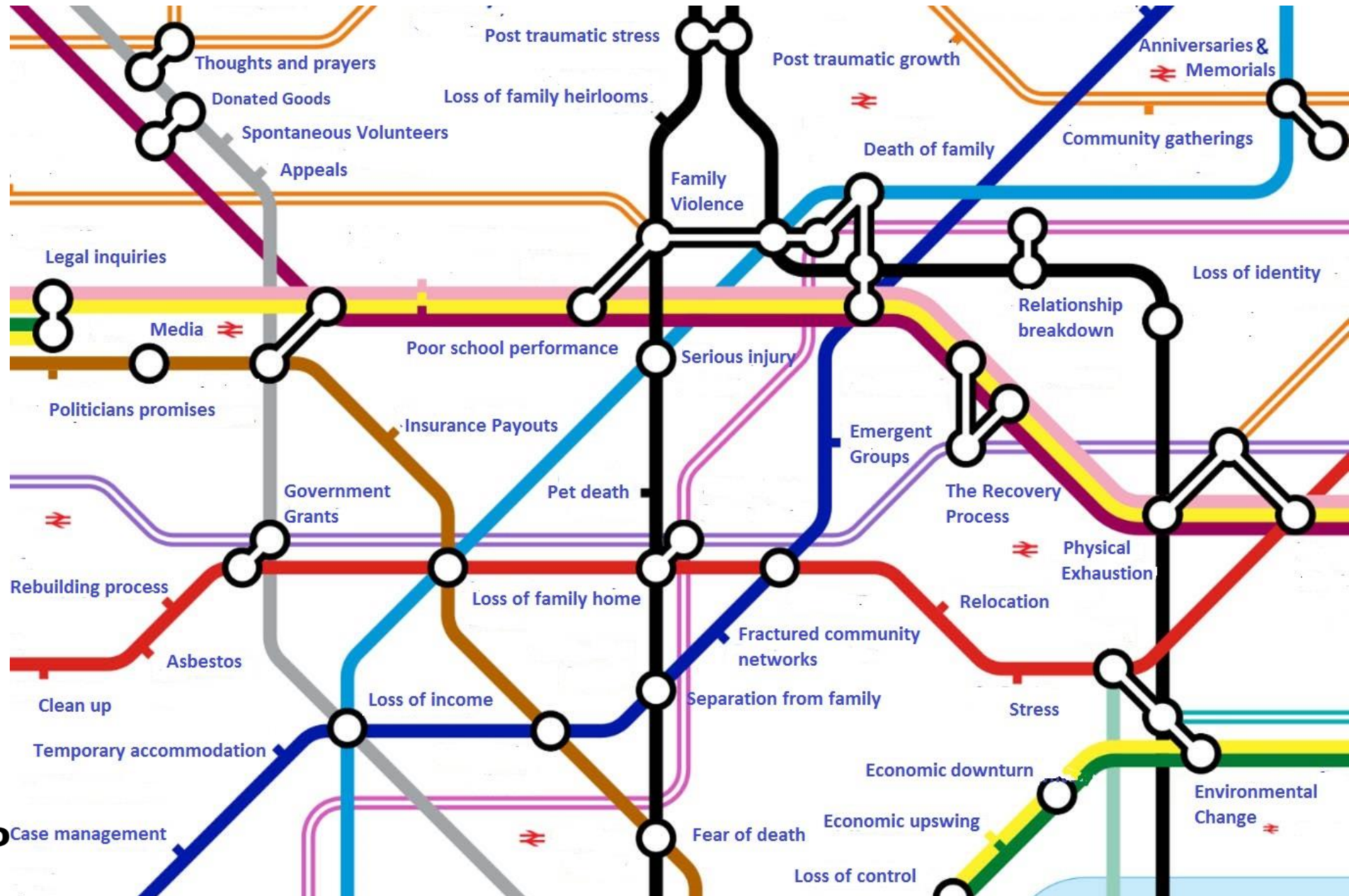
Recovery: the third disaster



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Recovery is a complex system



Recovery is more than the basics




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Recovery is long term

Time 2: 5 years post bushfires

POSTTRAUMATIC STRESS DISORDER



SET LOCATION for local news & weather

Home Just In Australia World Trump's America Business Sport Science Arts Analysis Programs More

Special coverage China Power: Communist cash, Australian politics and the battle for influence



SET LOCATION for local news & weather

Home Just In Australia World Trump's America Business Sport Science Arts Analysis Programs More

Special coverage China Power: Communist cash, Australian politics and the battle for influence

- Print
- Email
- Facebook
- Twitter
- More

Some shops still empty 10 years after superstorm swept through Wallsend

1233 ABC Newcastle By Dan Cox and Karen Shrosbery

Posted Mon at 7:29am

1233 ABC Newcastle

- Volunteers reflect on saving lives in Pasha Bulker storm 10 years on
- Hunter Valley soldiers remembered 100 years after deaths in WWI battle



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Politics



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Media

- Will shape the narrative
- Pressure of a story to tell.
- No set standards for disaster
- Can have a positive and negative impact on affected people.
- People are overwhelmed by information
- Recovery stories are harder to “sell”
- The rise of citizen journalism
- Journalists are people too





Goodwill



of
y

Commemoration



Defining recovery is not easy...

The restoring or improving of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities, of a disaster-affected community or society, aligning with the principles of sustainable development and 'build back better', to avoid or reduce future disaster risk.

UNISDR 2017



Communities in control

A large group of people, mostly older adults, are seated in a room with white walls and several windows. Many of the people have their hands raised, indicating they are participating in a discussion or a vote. The room appears to be a community center or a meeting room. The lighting is bright, and the atmosphere seems to be one of active engagement.

“...no-one can take away our right to make our own decisions or to interfere with those we have made...we don't need everything done for us, as we are neither useless nor helpless”

- Survivor, 1983 Ash Wednesday bushfires

A photograph of Anne Leadbeater, a woman with short brown hair, wearing a dark blazer and a necklace. She is leaning against the trunk of a tree on the left side of the frame. The background shows the bare branches of another tree against a bright, slightly overcast sky. The overall mood is calm and reflective.

**“Being recovered is being able to live
a life you have reason to value”**

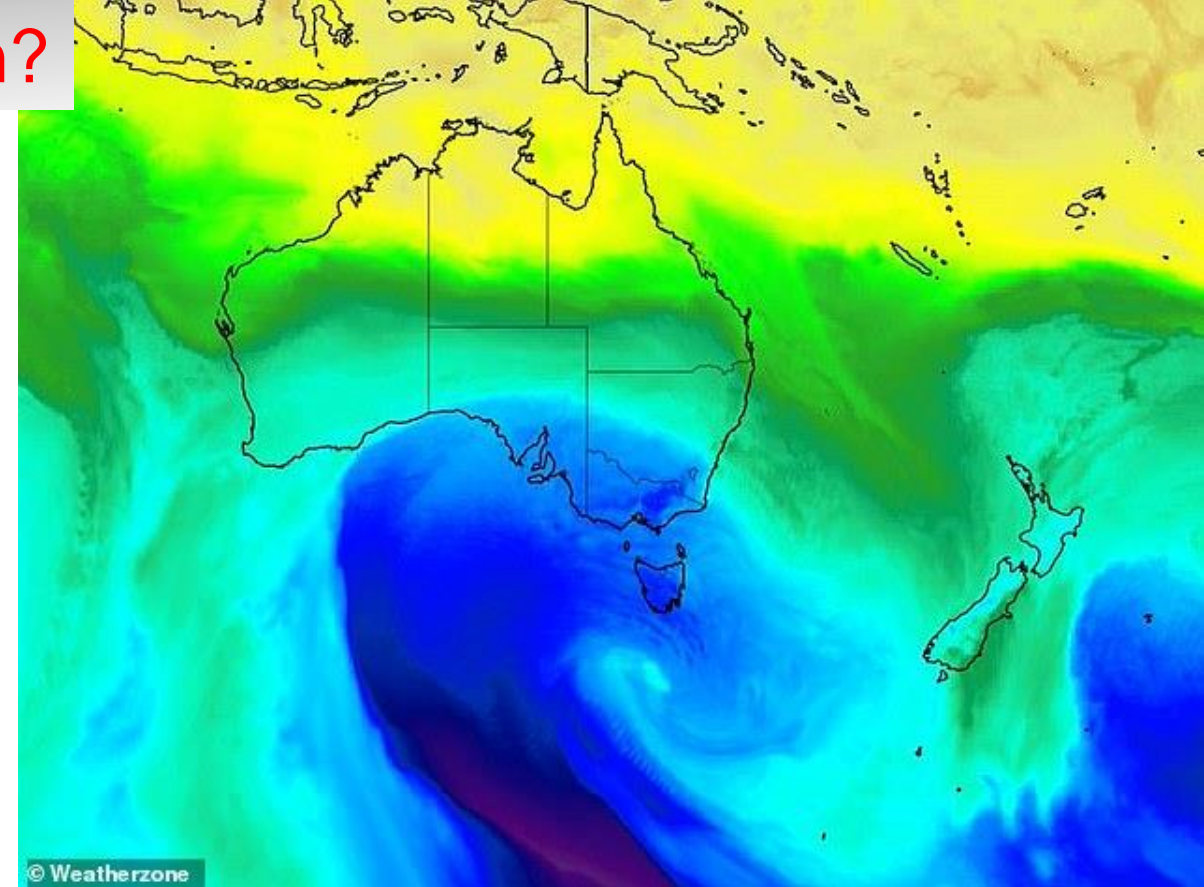
Anne Leadbeater

Recovery programming

- Do no harm
- Strengths focus
- People centred, demand driven
- Inclusive, leave nobody behind
- Long term, 5 years minimum
- Networked approaches work best
- Plan strategically, and dynamically
- And we have to learn

And what does a changing climate mean?

- Greater number of deaths from smoke inhalation
- Greater number of deaths from extreme heat and cold
- Higher levels of PTSD and depression with longer fire seasons, more extreme fire weather days
- Disruption of cities from flash flooding
- More intense droughts
- Pressures on housing and rebuilding from cyclone impacts in areas not built to code



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- [Parkinson, D \(2013\)](#) The hidden disaster: domestic violence in the aftermath of natural disaster
- [Parkinson D et al \(2018\)](#) Identifying the experiences and needs of LGBTI communities before, during and after emergencies
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Break

Mute your microphone



Discussion: implications for the Australian Climate Roundtable



Close



Close

- Next workshop set for Tuesday 26 May 9am-12pm
 - Again by video, this time via Microsoft Teams
 - Topic is Macro-Economic Risks
- Welcome feedback on the format and process to:
 - Tennant.reed@aigroup.com.au
 - Rachael.Wilkinson@aigroup.com.au