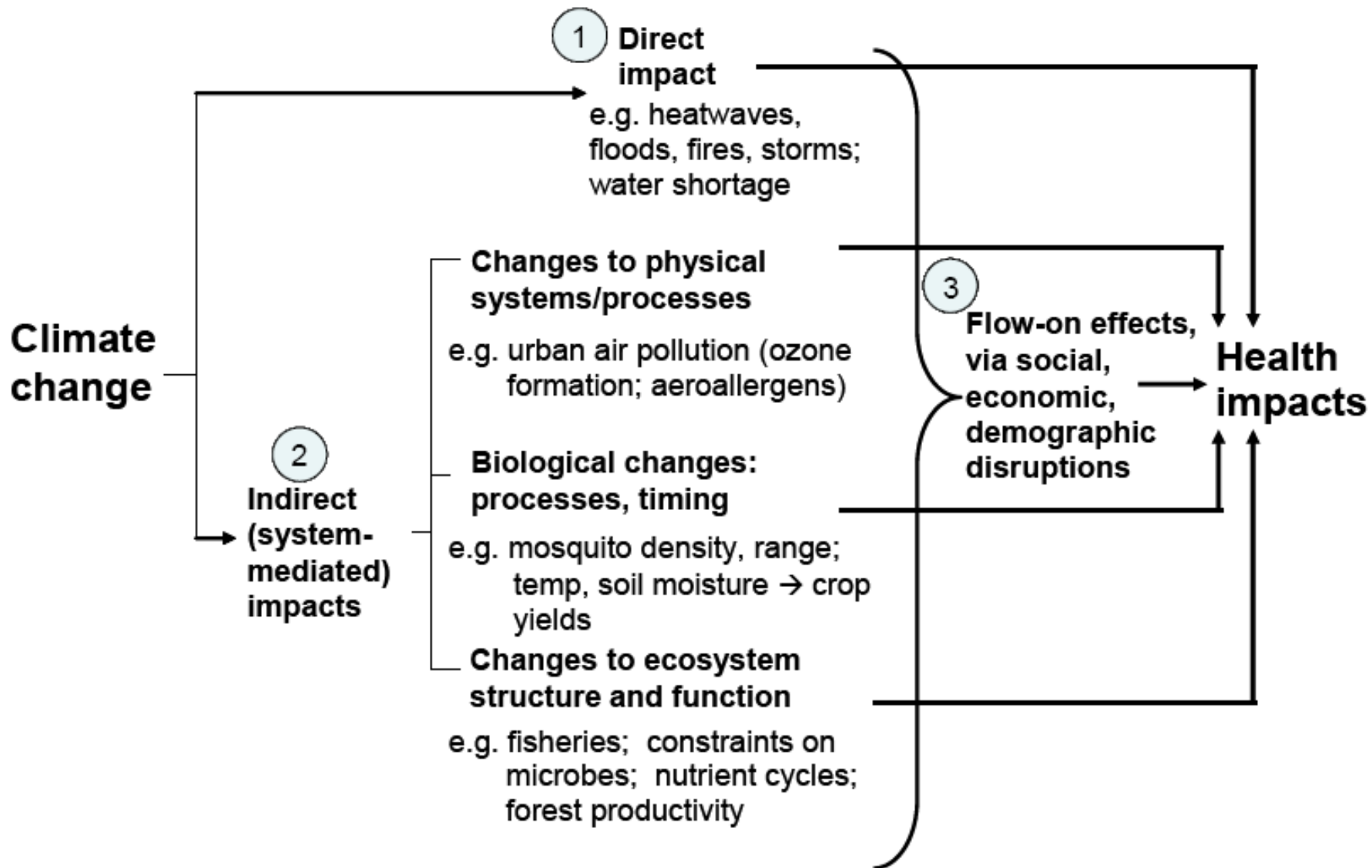




Why is climate change a
public health issue?

Professor Tony Capon

1. Health impacts of climate change
2. Rural and urban communities
3. Role for health professions
4. Responding to climate change:
 - *Adaptation* (ARN for human health)
 - *Mitigation* (co-benefits for health)



Climate change impacts on health in Australia

Already apparent: events amplified by climate change

- ➔ Uptrend in average annual no. of **heat-days**: deaths, hospitalisations
- Increase in no./severity **bushfires**: injury/death, resp. hazard, mental health

Current probable: not clearly identified

- ➔ Rise in microbial food-poisoning: **diarrhoeal diseases**
- Changes in **air quality**: ozone formation; aeroallergens → respiratory dis
- ➔ Increased **mental health** impacts in (warmer, drier) rural Australia

Predicted future health impacts

Extreme weather events: injuries, deaths, inf. disease, depression

Water shortages: food yields, hygiene

- ➔ **Mosquito-borne infections**: dengue fever, Ross River virus, MVE, chikungunya, Japanese encephalitis, etc.

Thermal stress in outdoor work: injuries, organ damage, productivity

Stressed/displaced groups – tensions, poverty, mental health, etc.

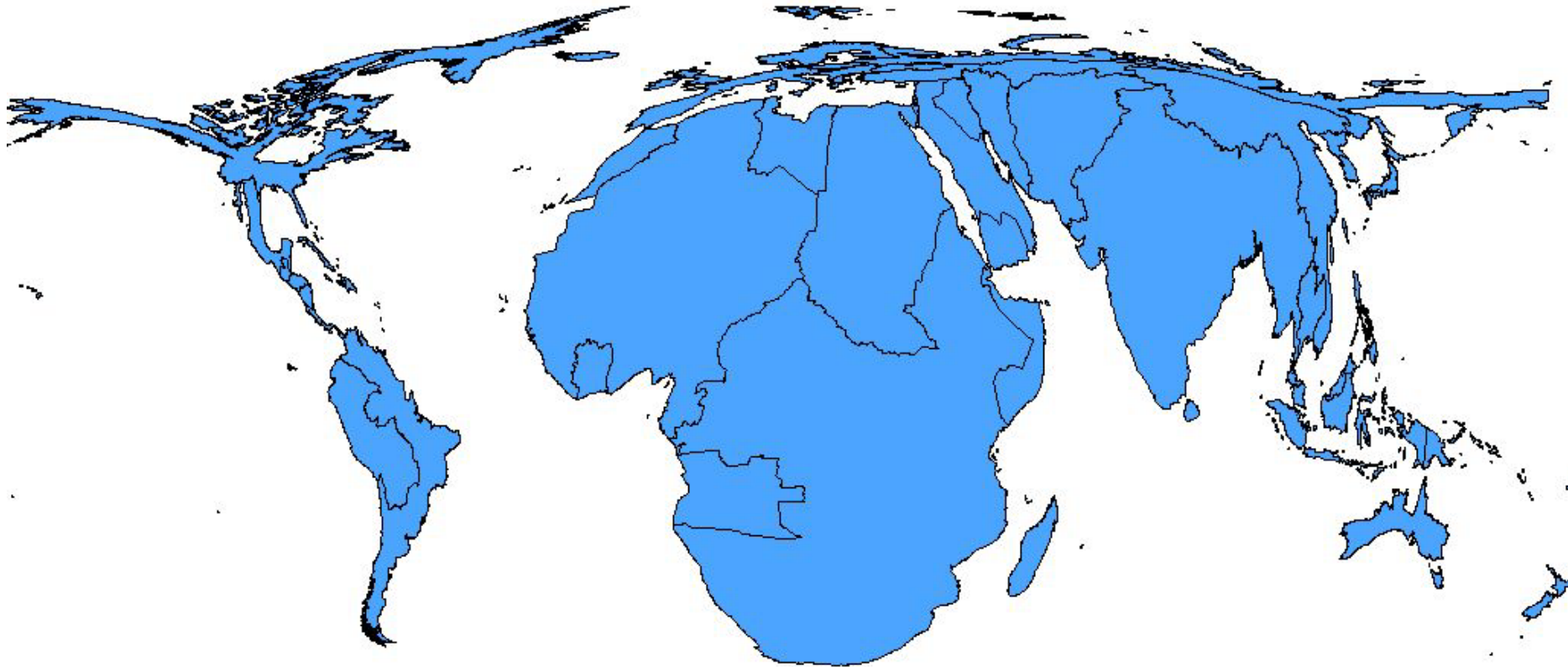
– rural communities; remote-indigenous; ‘climate refugees’

- ➔ = included in NCEPH’s inputs to Garnaut Review

- Those least responsible, worse affected (internationally and within Australia)
- Risk of worsening disadvantage (policies to reduce greenhouse gas emissions could make things worse)

Mortality Impacts of Climate Change: Year 2000

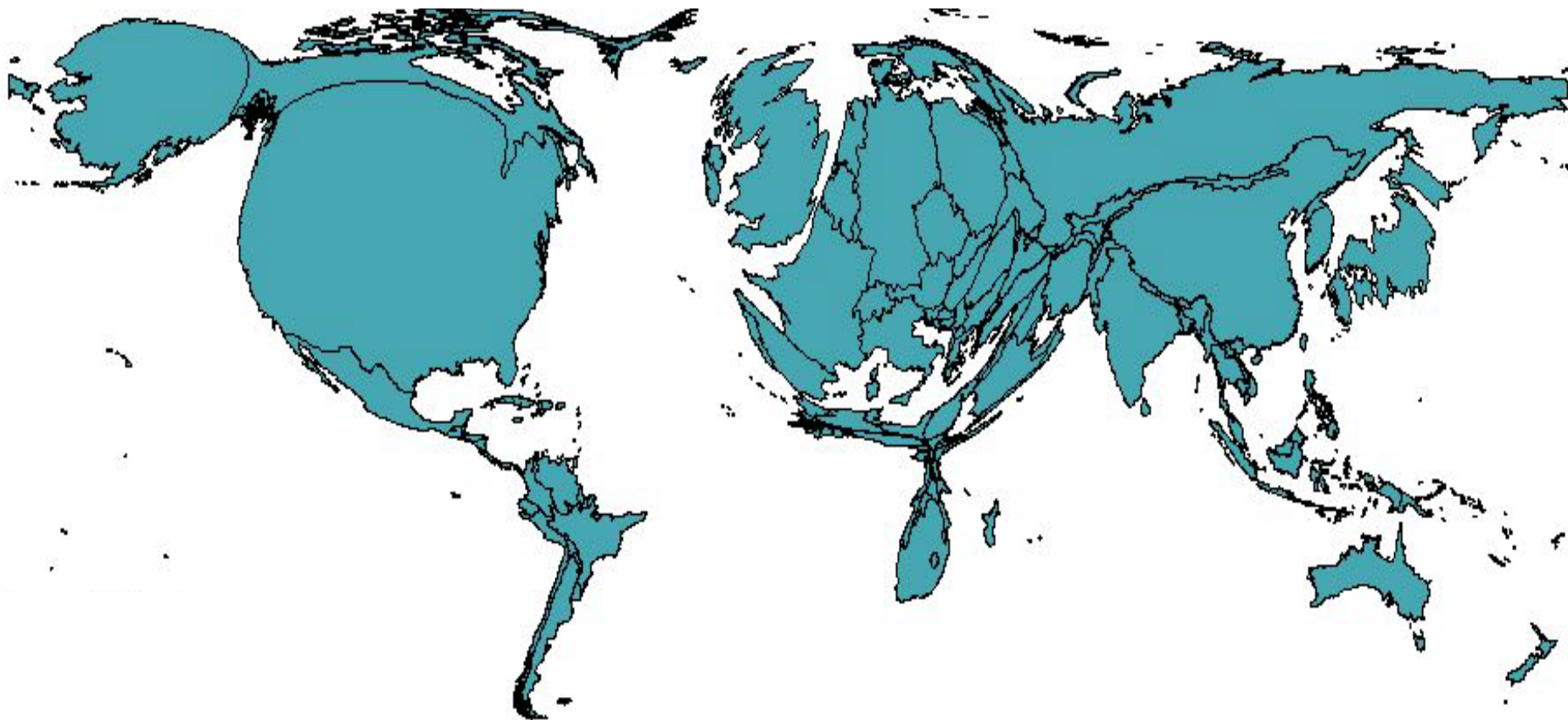
Estimated annual deaths due to climate change: **malnutrition** (~80K), **diarrhoea** (~50K), **malaria** (~20K), **flooding** (~3K)



14 WHO regions scaled according to estimated annual death rates due to the change in climate since c.1970.

(Patz, Gibbs et al, 2007: based on McMichael, Campbell-Lendrum, et al, 2004)

Cumulative Emissions of Greenhouse Gases



Countries scaled according to cumulative emissions (billions of tonnes CO₂-equivalent) up to 2002.

(Patz, Gibbs, et al, 2007)

- Climate change, rural livelihoods, community wellbeing and mental health
- Food production, prices and security (low income households)

- Urban heat island – greening, insulation
- Tackling urban air pollution
- Growing food in the city
- Retreat from the sea shore

\$3m over 3 years

Led by Australian National University

- Built environment, thermal stress and health
- Transport, air quality, physical activity and health
- Urban food systems and health
- Vector-borne disease (dengue fever)
- Integration for urban policy and planning

Health “co-benefits” from mitigation

- Mobility – walking, cycling and mass transit
 - Physical activity, social interaction, air quality
- Food choices
 - Reduction in meat consumption (methane)
- Housing design – orientation, insulation, ventilation
- Energy generation – renewable sources

- 2010 Aust. Acad. Sci. Fenner Conference

Win – Win – Win

Active travel

(walking, cycling, mass transit)

- Good for the environment
- Good for the budget
- Good for our health and wellbeing

“Just as doctors smoked
in front of patients,
many of us still drive to
work in large cars.”

Prof. Mike Gill

co-chair Climate and Health Council

BMJ, 28 June 2008

- Health system can lead
- 10% of GDP – a lot of economic muscle
 - Buildings
 - Office supplies, furniture
 - Food
 - Transport
 - *Pharmaceuticals and medical devices

- Example of water tanks
 - Quality of water
 - Potential for mosquito-breeding
- Understand the risks
- Options for managing these risks
- Public health researcher/policymakers engaged

Climate Change Adaptation Research Network for Human Health

The Network will improve Australian knowledge about climate change adaptation and human health to enable decision-making by government, industry and communities

Human Health NARP



National Climate Change
Adaptation Research Plan
Human Health



- Human Health NARP first published Dec 2008
- Review to be completed by end Aug 2011
- Richard McKellar and Frank Stadler



Research funding

- NHMRC – Health Challenges of Climate Change
- \$6m funding pool
- 3 rounds
- By end 2010, \$1.9m committed
- Partnerships for Better Health



State of the Science and Policy Papers



Liz Hanna & Jeff Spickett

12 papers, published Mar 2011

Background document for review
of Human Health NARP

http://aph.sagepub.com/content/23/2_suppl



Climate Change Adaptation Action Plan for Human Health

- COAG process
- Department of Health and Ageing
- Environmental Health Committee (en-Health)
- Consultation workshop in Sydney, Nov 2010
- Background papers prepared by ARN members

Working with professional organisations

- PHAA
- Australian Health Promotion Association
- Medical colleges – RACP, AFPHM, Anaesthetics etc.
- Planning Institute of Australia

Climate and Health Alliance

- Established in Aug 2010
- Advocacy about climate change and health
- Professional organisations and industry representatives
- Based on Climate and Health Council (UK)
- Fiona Armstrong, Founder and Convenor



19th Int Congress on Biometeorology



- Auckland, 5-9 Dec 2011
- *Climate and Society*
- Professor Glenn McGregor,
University of Auckland
- Dr Paul Beggs,
Macquarie University
- Symposium on climate change
and health
- <http://www.icb2011.com/icb2011/index.cfm?p=welcome>



New website

<http://www.nccarf.edu.au/humanhealth>

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- World Health Organization website

<http://www.who.int/globalchange/climate/en/>

- *Lancet* 2009; 373: 1693-1733

[http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(09\)60935-1/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)60935-1/fulltext)

- *NSW Public Health Bulletin* 2009; 20: 1-28
Special issue on Climate Change and Health

<http://www.publish.csiro.au/nid/227/issue/5062.htm>