

## NSW climate change science

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**Energy, Environment and Science Group**

**#AdaptNSW2019**

## In 2010 we set our outcomes to:

- establish a climate ‘baseline’ for NSW, develop both regional and fine-scale projections of climate change
- maximise the benefit of investment in science and expertise, and develop the knowledge base that underpins climate change adaptation programs
- build the capacity of local and regional decision-makers to understand and adapt to the impacts of climate change
- enable all sectors and Government agencies to assess and evaluate climate change impacts and the need for adaptation

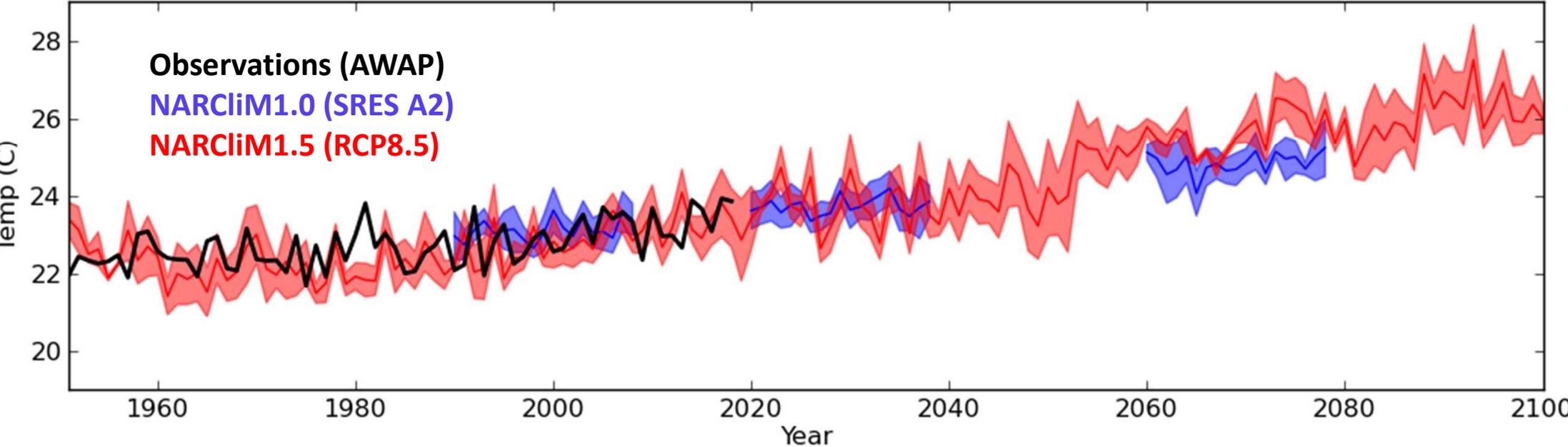




**\$3.2 billion**  
Annual economic costs  
from natural hazards in  
NSW



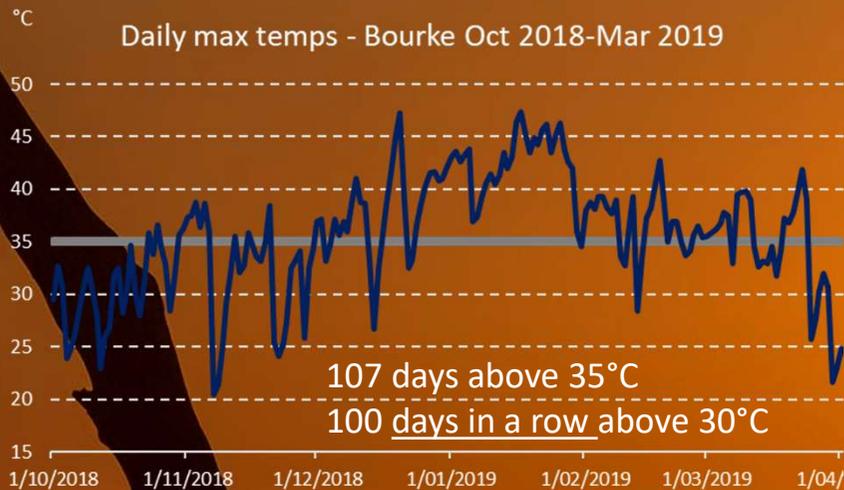
### Annual Maximum Temperature in Sydney: 1950 to 2100





# 35°C

in NW NSW by 2070 temperatures over 35° can be expected on more than 120 days each year

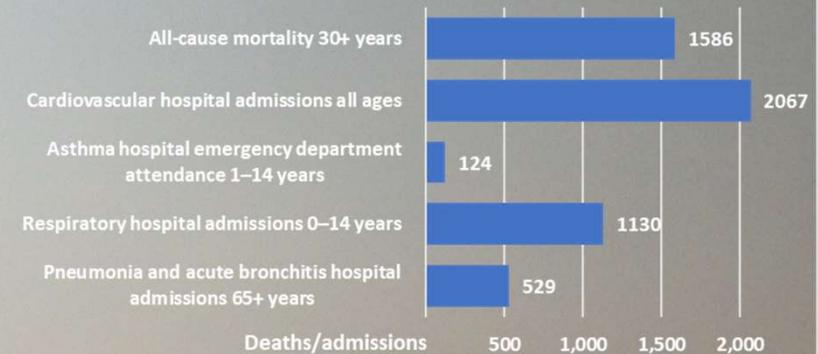




# 520

premature deaths each year from  
current air pollution levels in Sydney

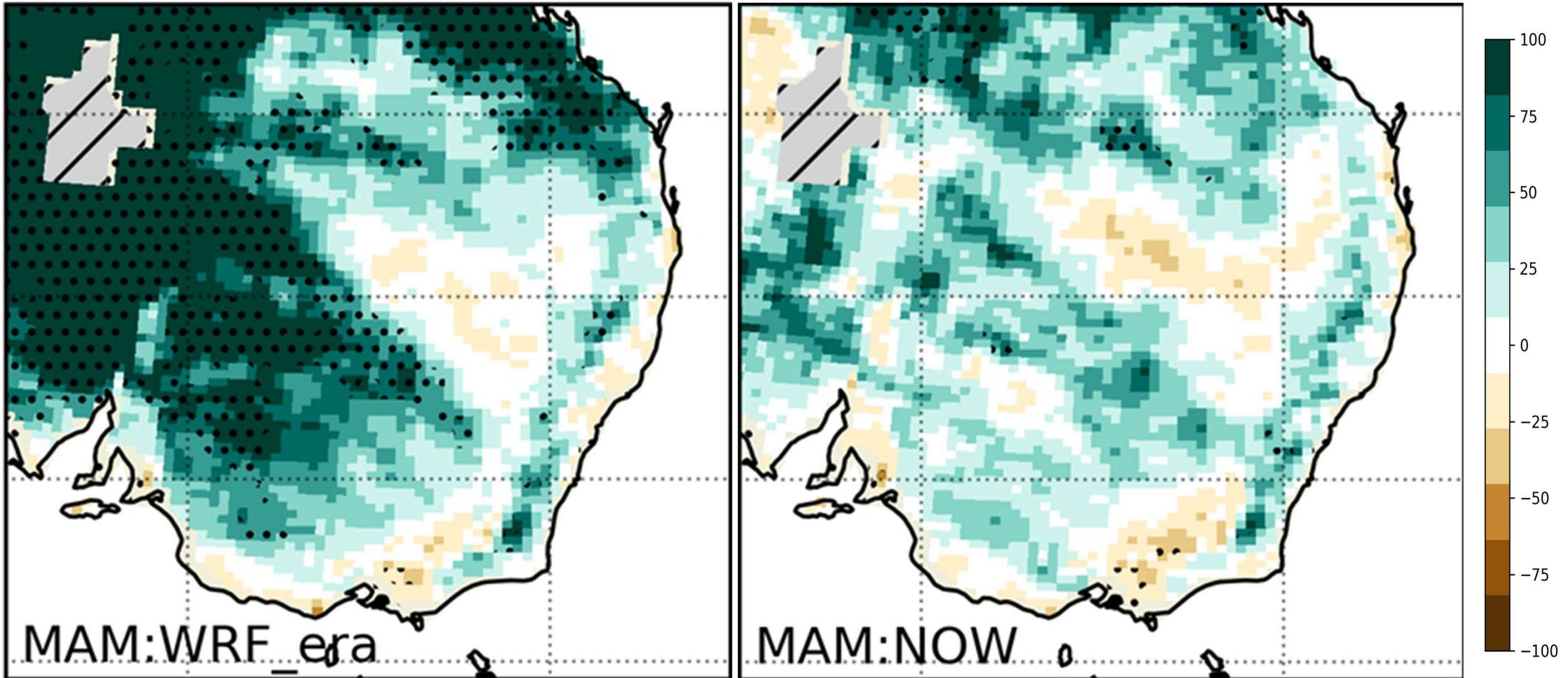
Estimates of annual mortality and hospitalisation attributable to PM2.5 and PM10 air pollution in Sydney, Melbourne, Brisbane and Perth (2006-10)



Morgan et al (2013), "Summary for policy makers of the health risk assessment on air pollution in Australia." Prepared for the National Environment Protection Council. Canberra, ACT. [http://www.environment.gov.au/system/files/pages/dfe7ed5d-1eaf-4f2-bfe7-dbb7ebaf7139/files/summary\\_policy-makers\\_hra-air-pollution-australia.pdf](http://www.environment.gov.au/system/files/pages/dfe7ed5d-1eaf-4f2-bfe7-dbb7ebaf7139/files/summary_policy-makers_hra-air-pollution-australia.pdf). NSW-EPA and OEH (2016) Consultation paper Clean Air for NSW.



# Coupling regional ocean model to an RCM



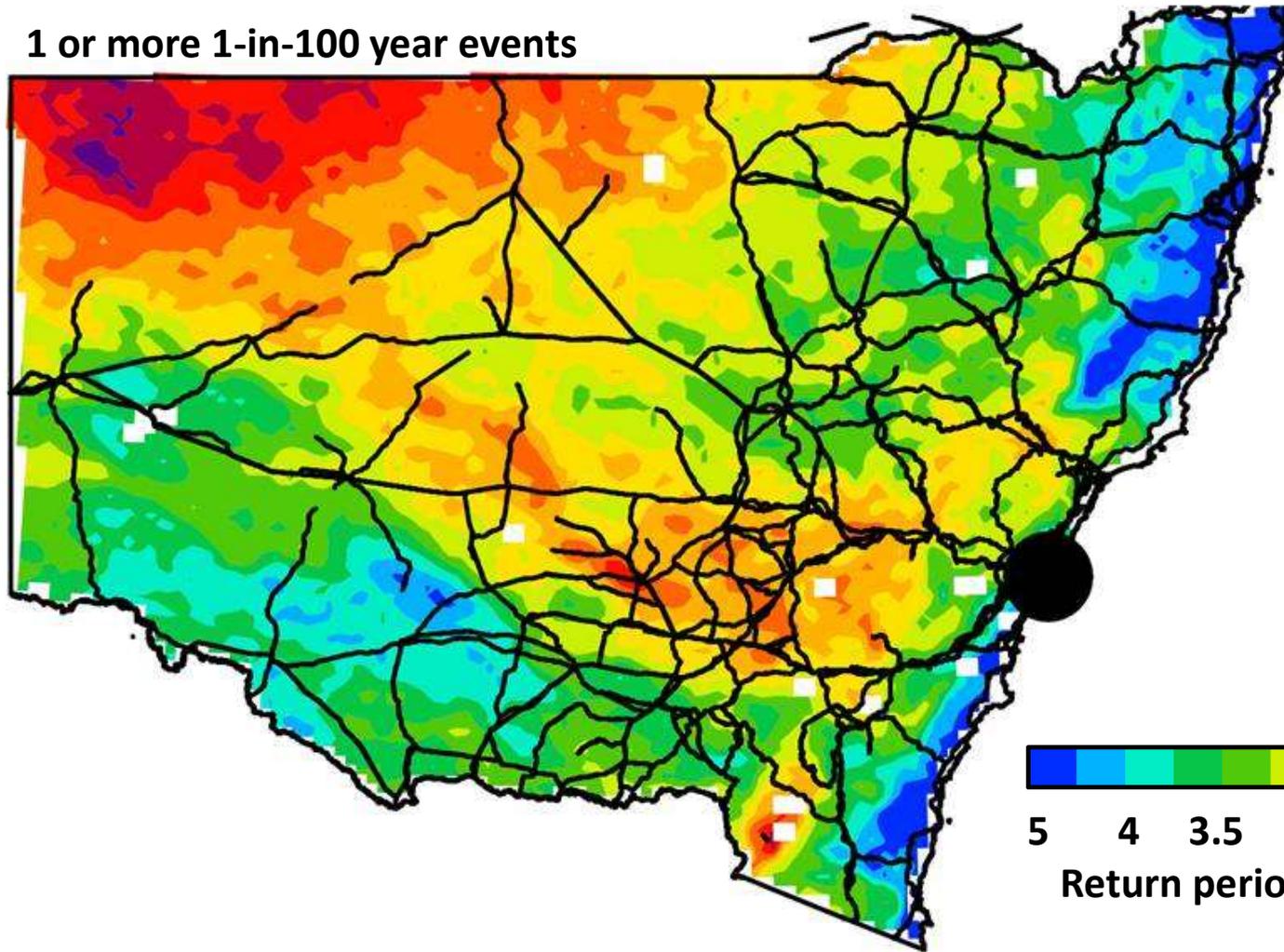
Atmos + Land

Atmos + Land + Ocean



# Probability of multiple hazards in 2060 - 2079

1 or more 1-in-100 year events



5 4 3.5 3.1 2.7 2.5  
Return period (1-in-XX years)



Fire (FFDI)



Extreme Tem



Extreme rain



Drought



Lightning





**I am not an optimist.  
I'm a very serious possibilist.  
It's a new category where we  
take emotion apart and just  
work analytically with the world.**

**Hans Rosling**



**AdaptNSW**

# Get in contact

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