



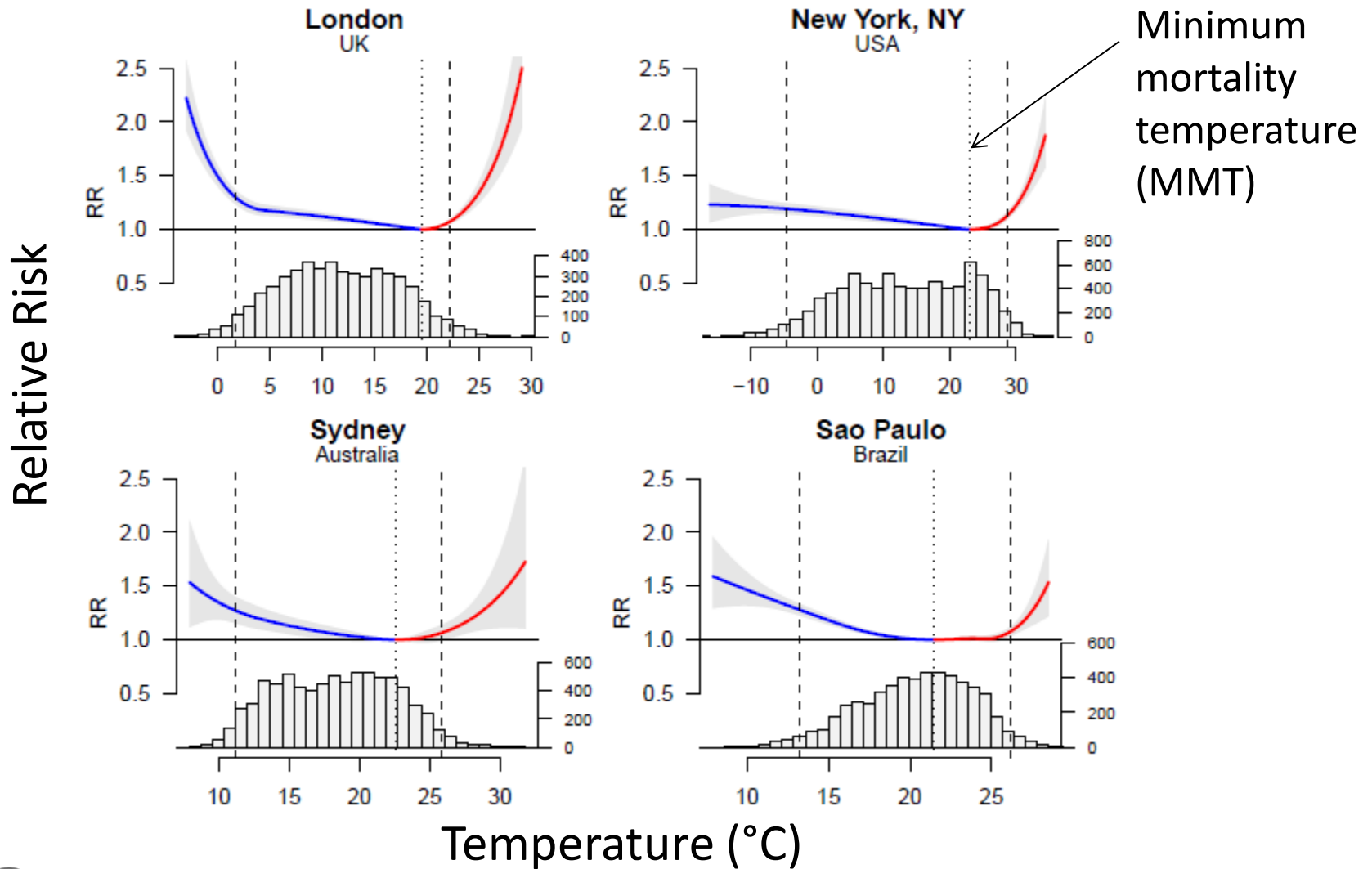
POTSDAM INSTITUTE FOR
CLIMATE IMPACT RESEARCH

Cold and Heat Related Mortality

Are impacts of global warming instantaneous?

Veronika Huber

Cold and Heat Related Mortality Models

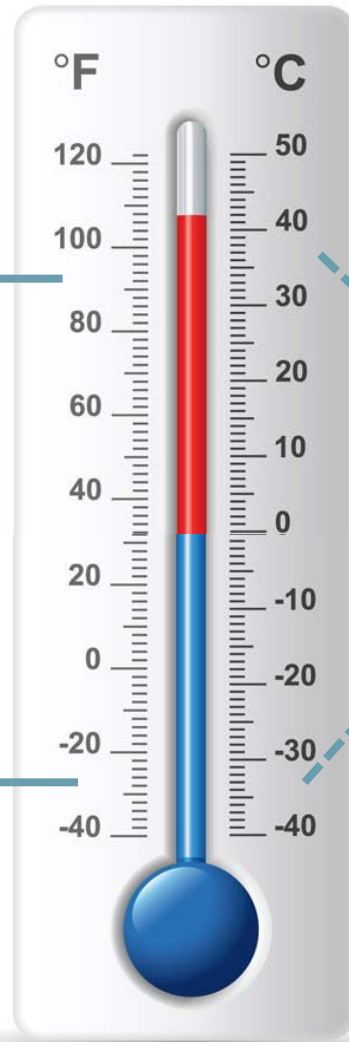


Physiological Mechanisms Underlying Cold and Heat Related Mortality

Disorders **directly** linked to heat and cold

Heat stroke
Heat cramps
Heat edema
Heat exhaustion
...

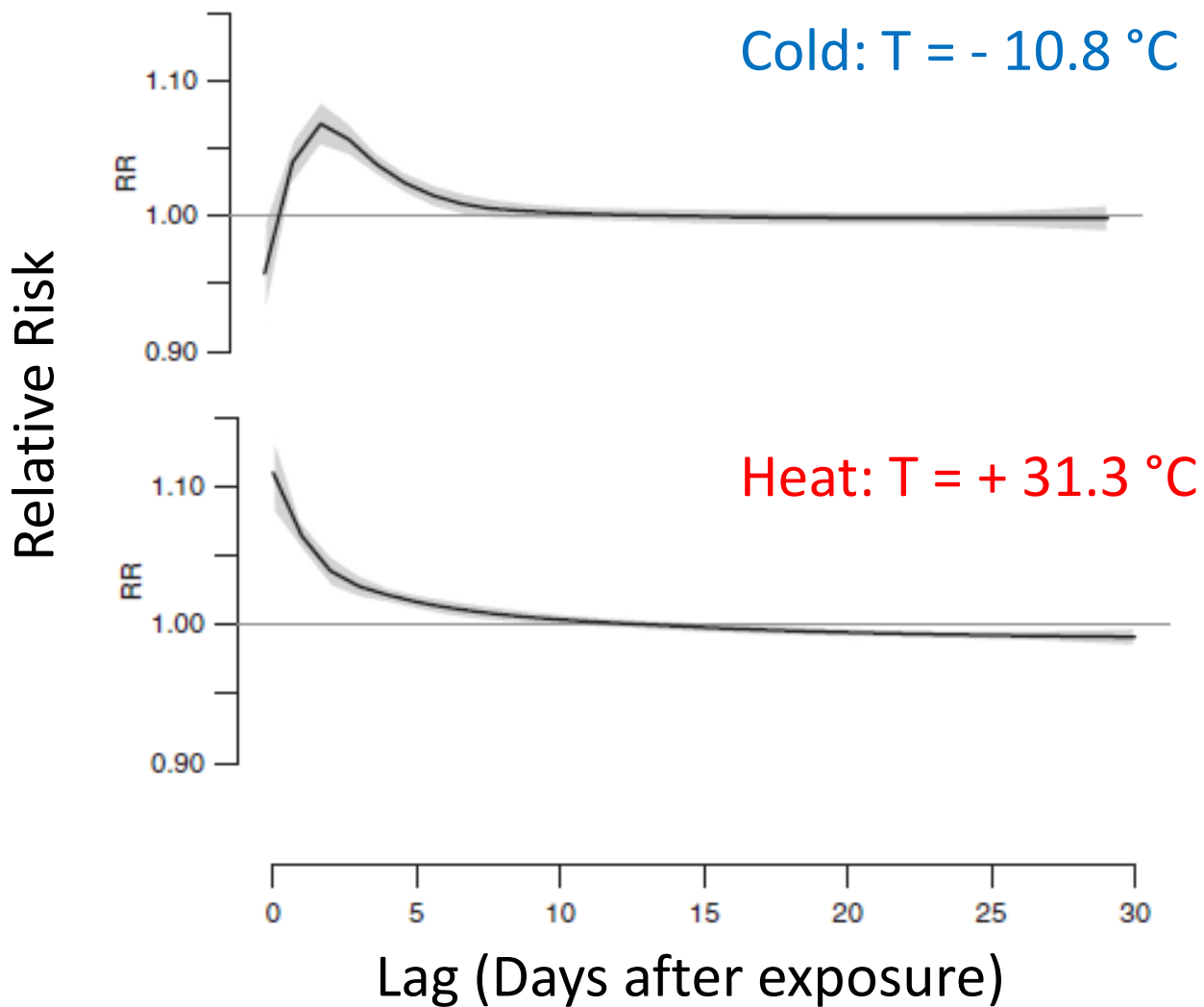
Hypothermia



Disorders **indirectly** linked to heat and cold

Cardiovascular diseases
Respiratory diseases
Etc.

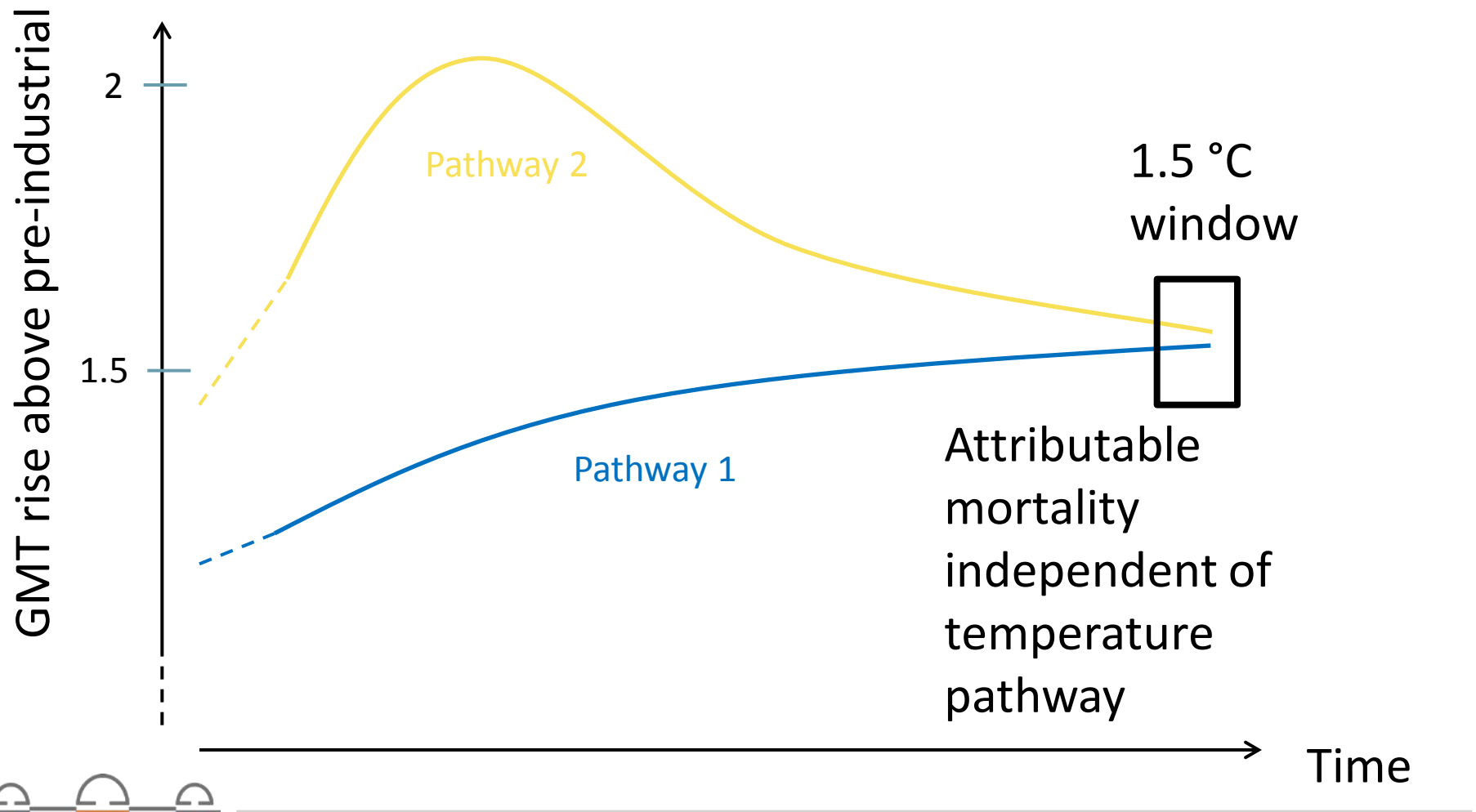
Observed Lag Structure



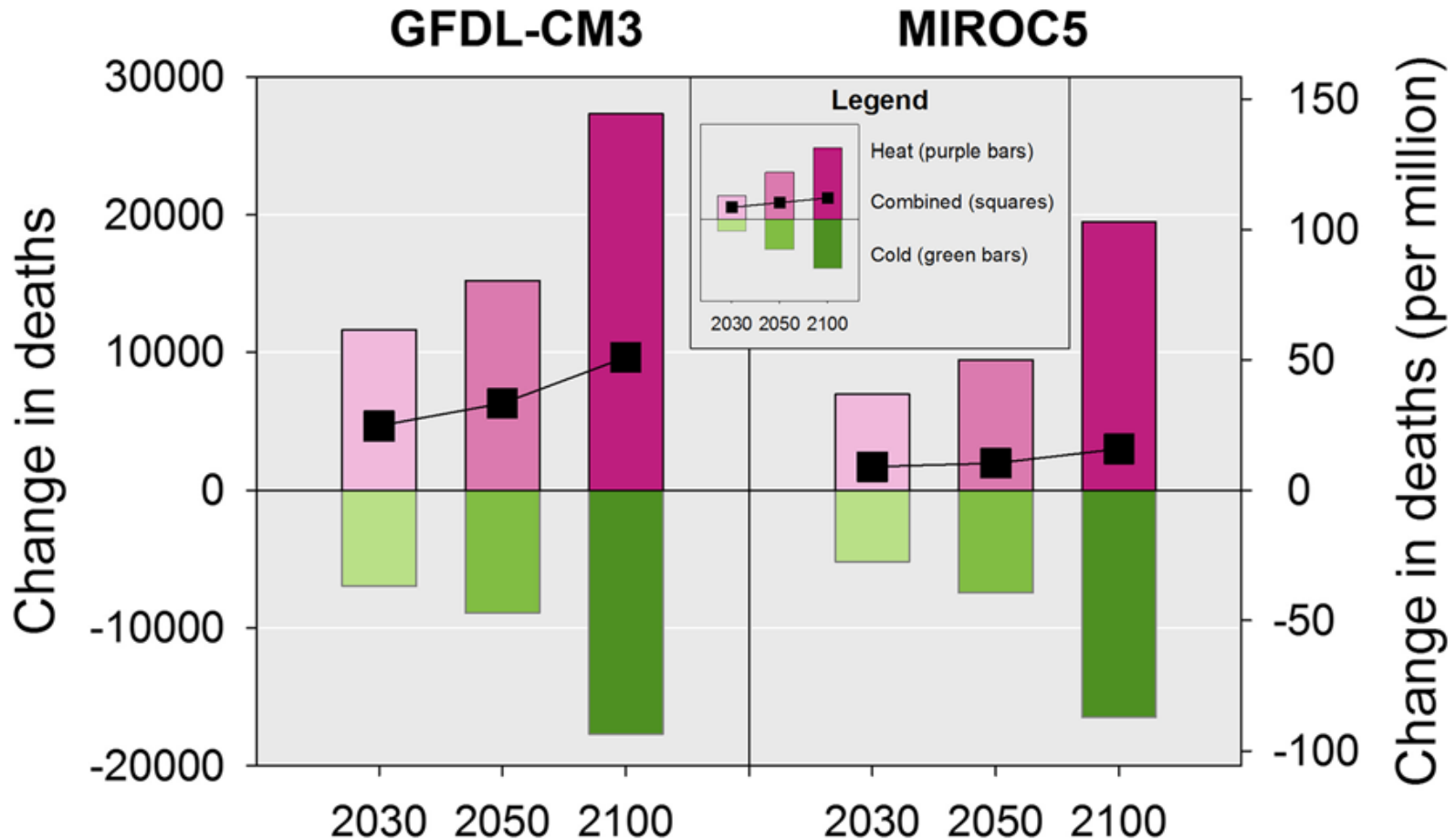
New York City (1987 – 2000)



Are Climate Impacts on Temperature-Related Mortality Instantaneous?



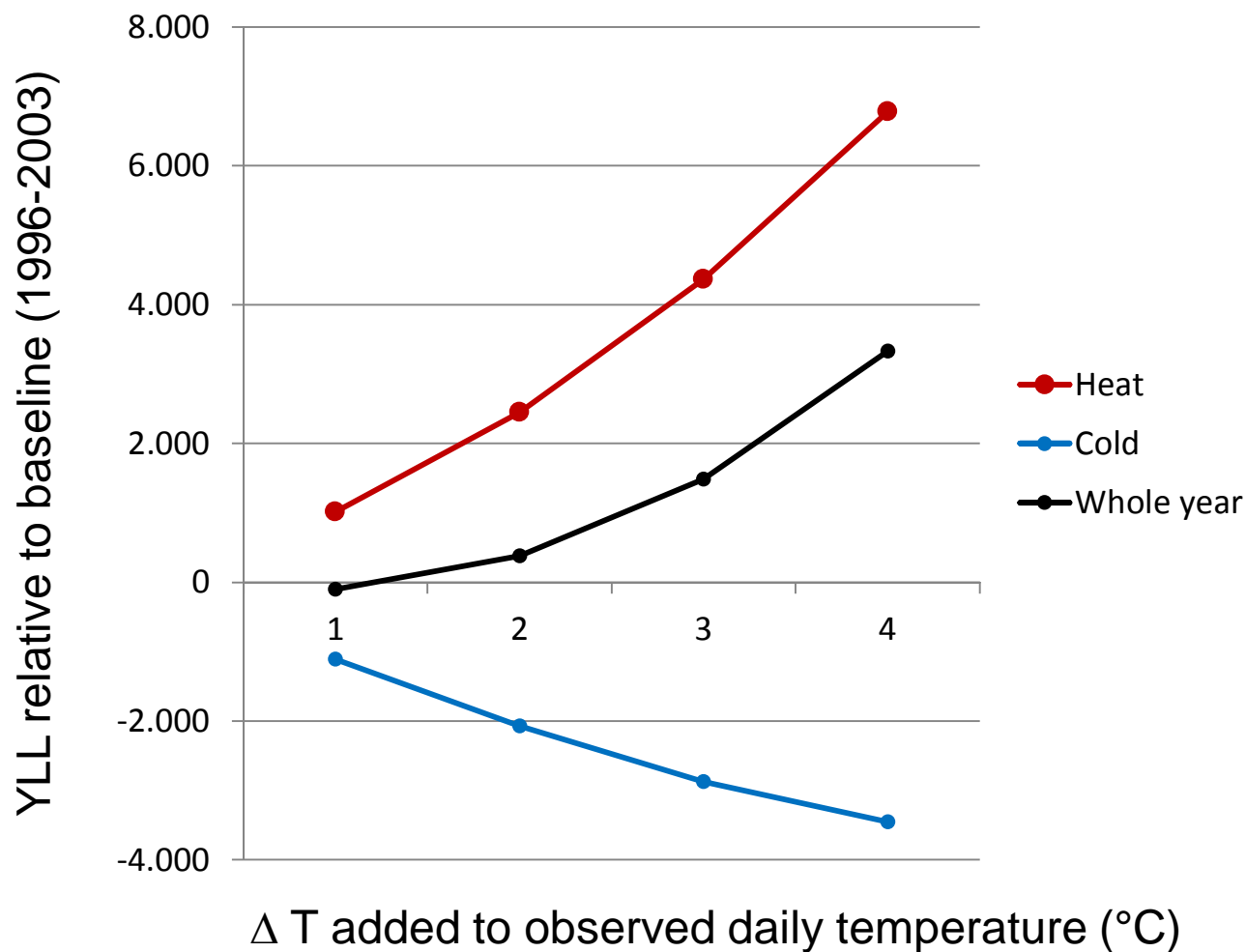
Climate Impacts on Temperature-Related Mortality



Based on temperature-mortality relationships from 209 US cities; RCP 6.0 ; 'delta method'

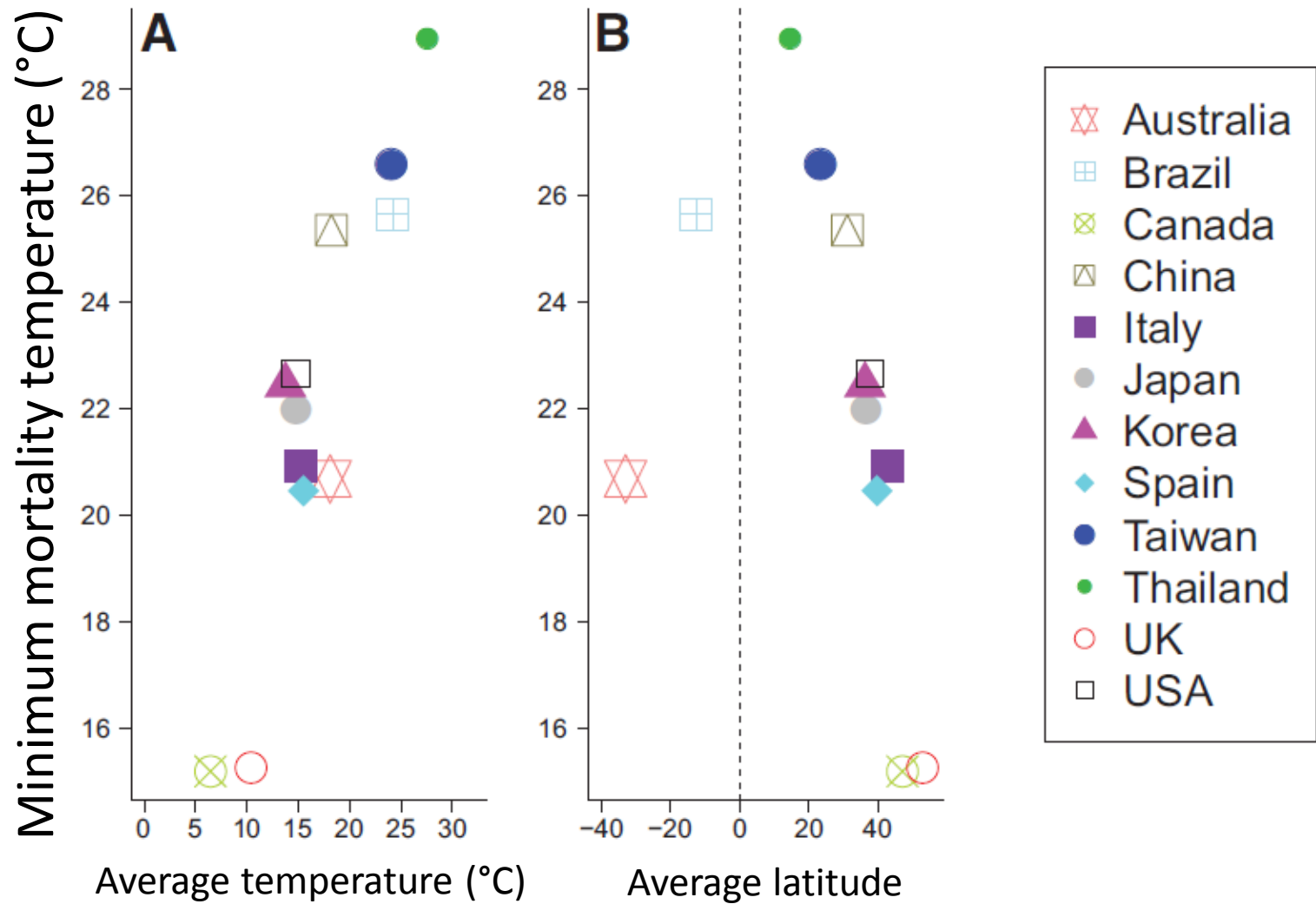
Few Existing Impacts Functions

Temperature-related years of life lost in Brisbane, Australia

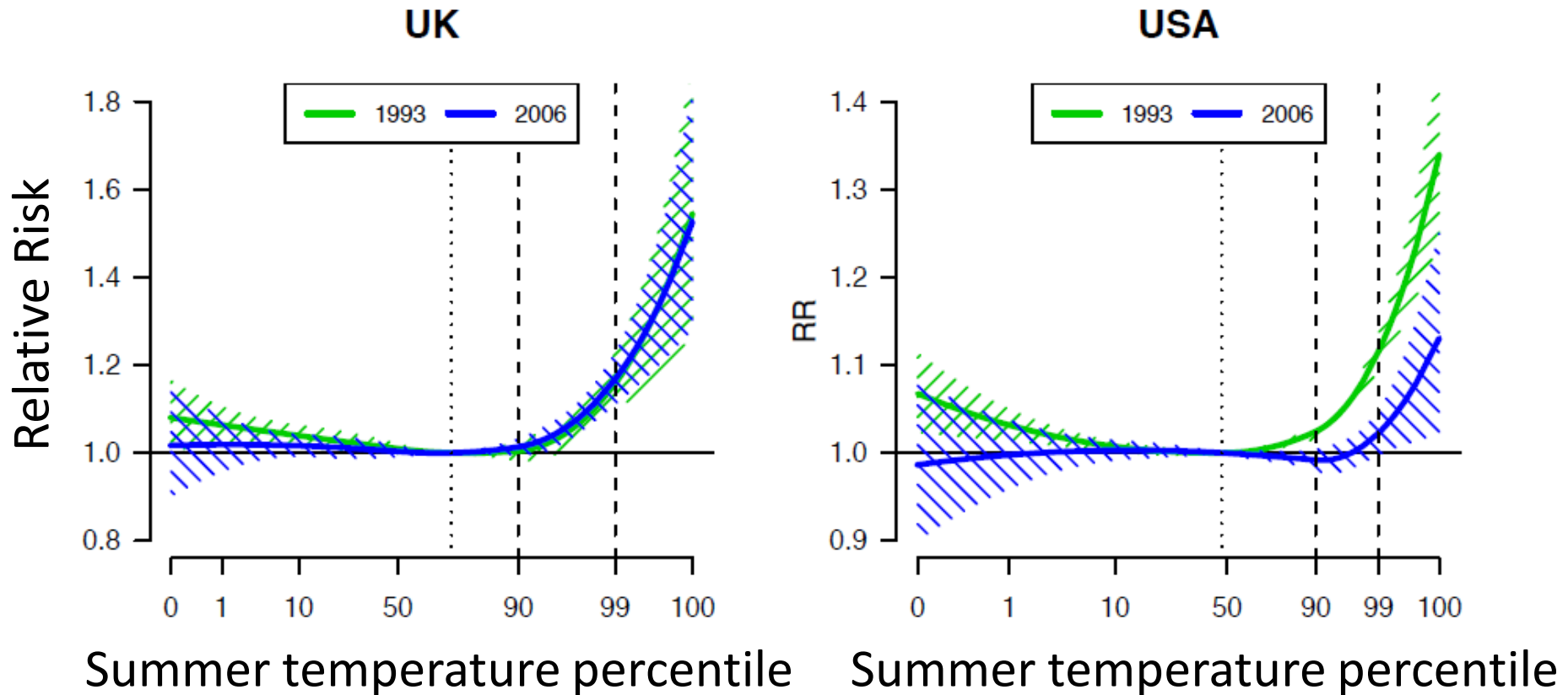


From Table 1 of Huang et al. 2012 NCC

But What About Acclimatization/Adaptation?



Temporal Scale of Acclimatization/Adaptation



Possible explanation: physiological adaptation, air-conditioning expansion, heat action plans, etc.

Are Climate Impacts on Temperature-Related Mortality Instantaneous?

