



DEPARTMENT OF GLOBAL HEALTH

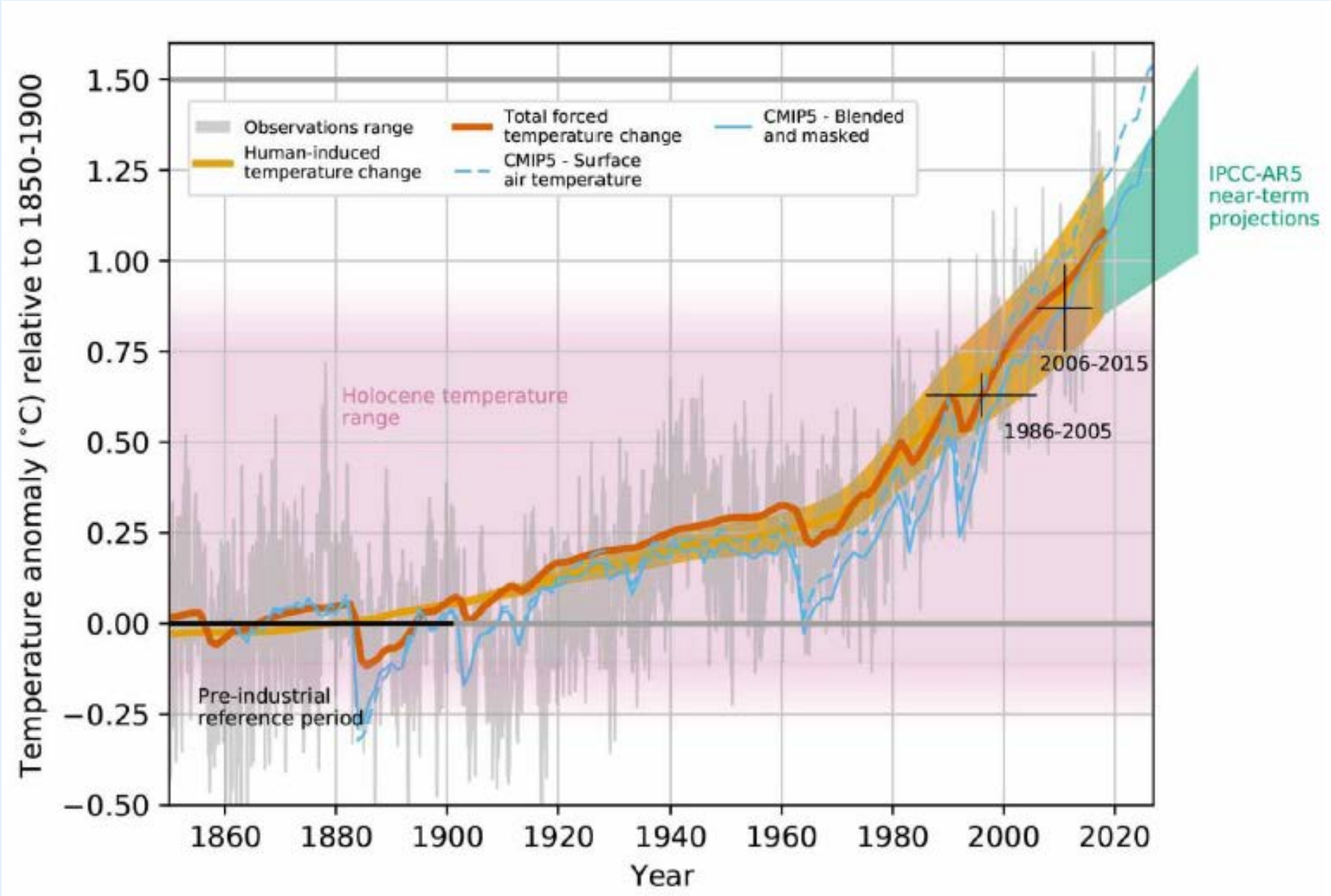
UNIVERSITY of WASHINGTON



SCHOOL OF PUBLIC HEALTH

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Evolution of Global Mean Surface Temperature



1.5° C and 2° C warmer worlds

Trends in intensity and frequency of some climate and weather extremes have been detected over time spans during which about 0.5°C of global warming occurred (*medium confidence*)



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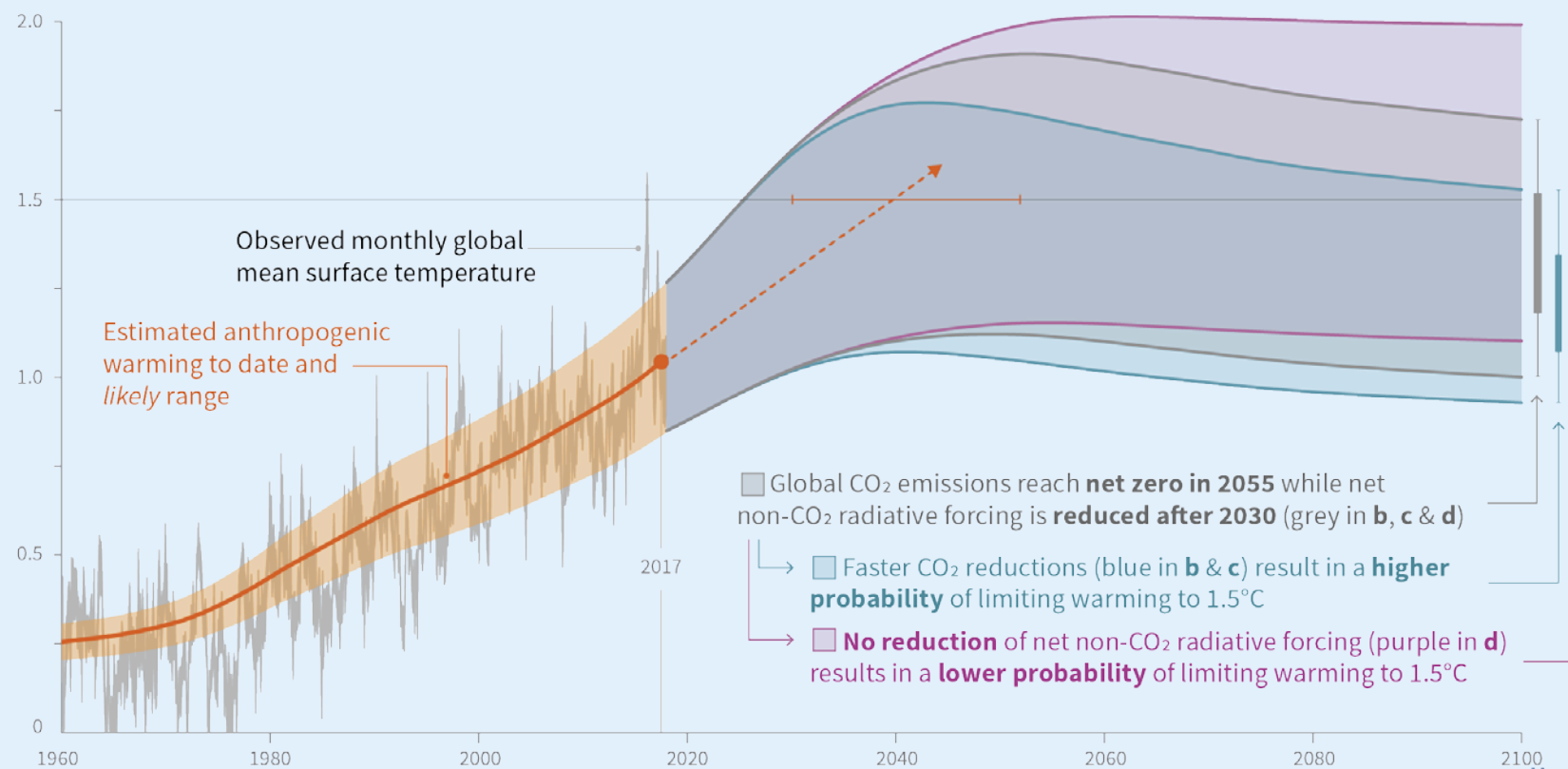
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SPM1

Cumulative emissions of CO₂ and future non-CO₂ radiative forcing determine the probability of limiting warming to 1.5°C

a) Observed global temperature change and modeled responses to stylized anthropogenic emission and forcing pathways

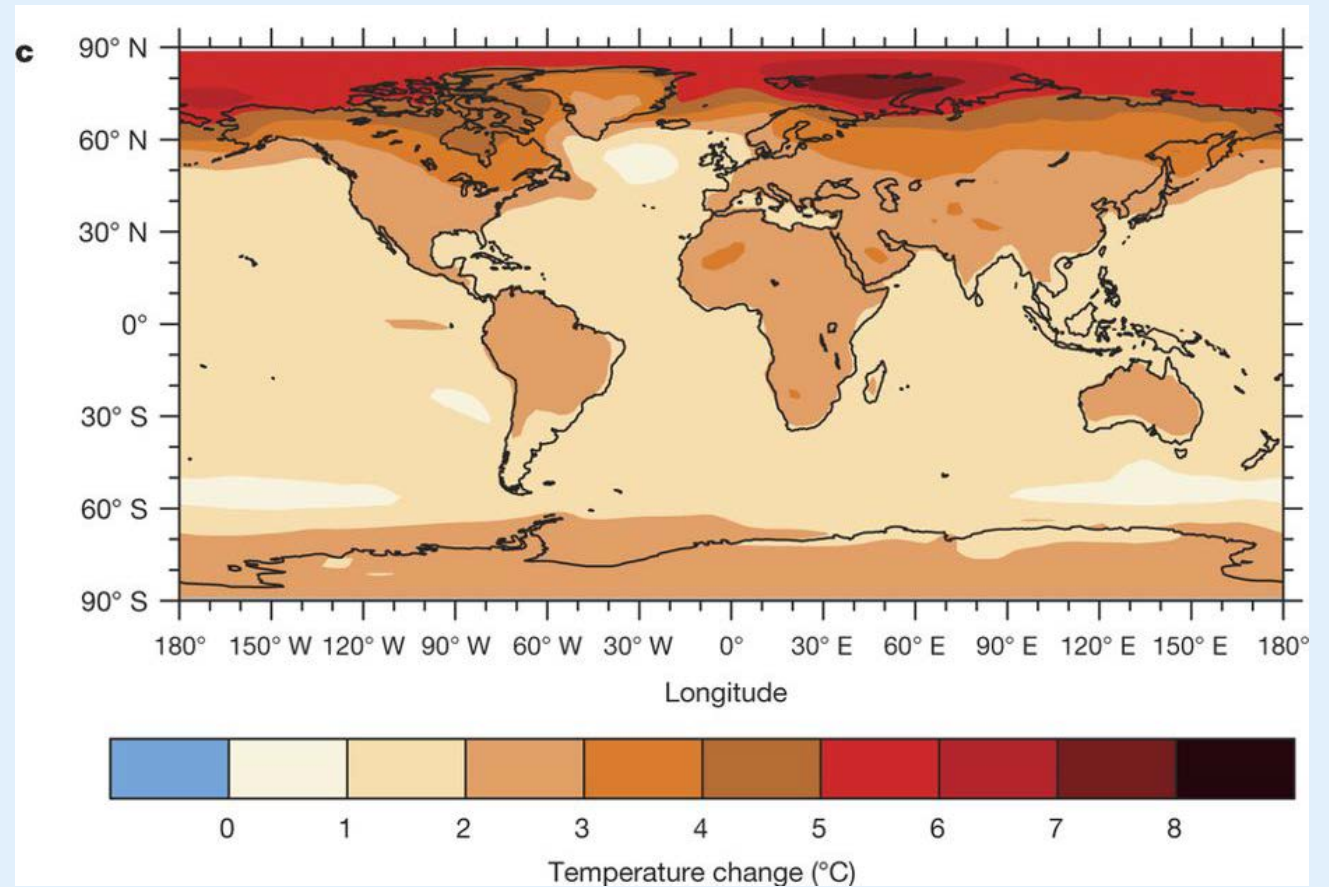
Global warming relative to 1850-1900 (°C)



1.5° C and 2° C warmer worlds

Climate models project robust differences in regional climate between present-day and global warming up to 1.5° C, and between 1.5° C and 2° C (*high confidence*), depending on the variable and region in question (*high confidence*). Large, robust and widespread differences are expected for temperature extremes (*high confidence*)

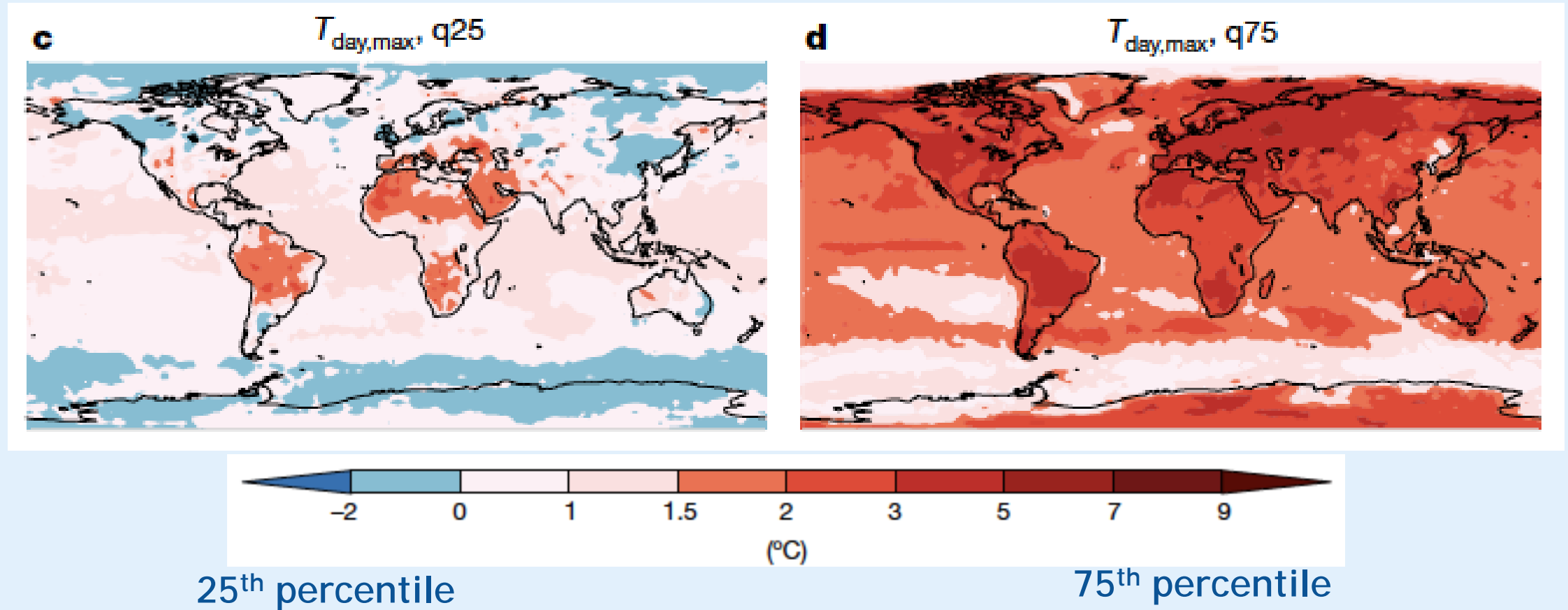
Global warming of 2 C for mean temperature based on RCP8.5 scenario simulations



© Seneviratne, et al , 2016, doi:10.1038/nature16542

1.5°C and 2°C warmer worlds

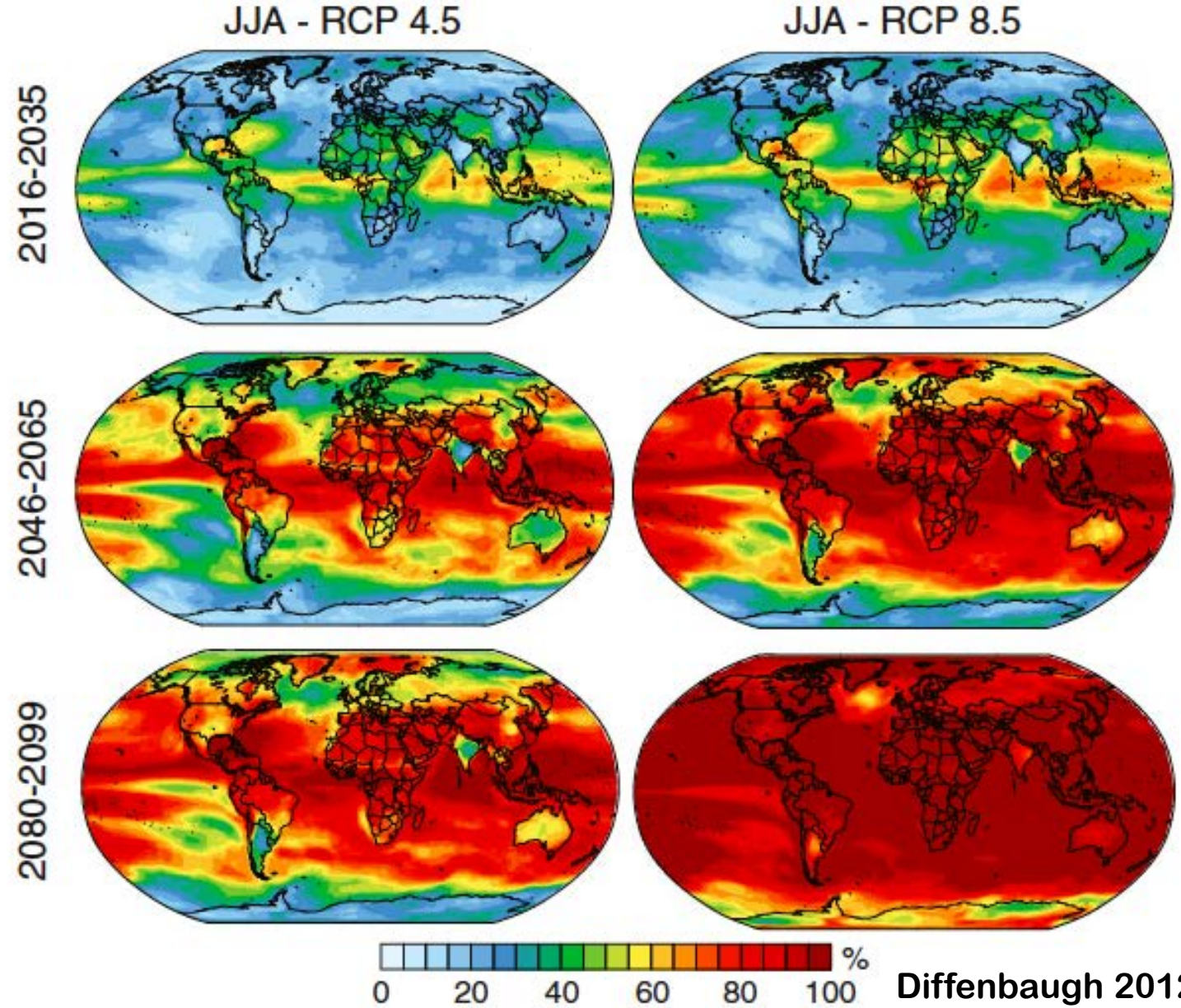
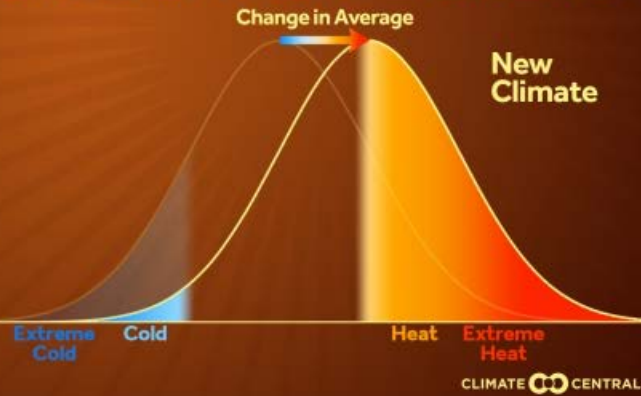
There is no single '1.5°C warmer world' (high confidence)



Occurrence of 1985-2005 T Max

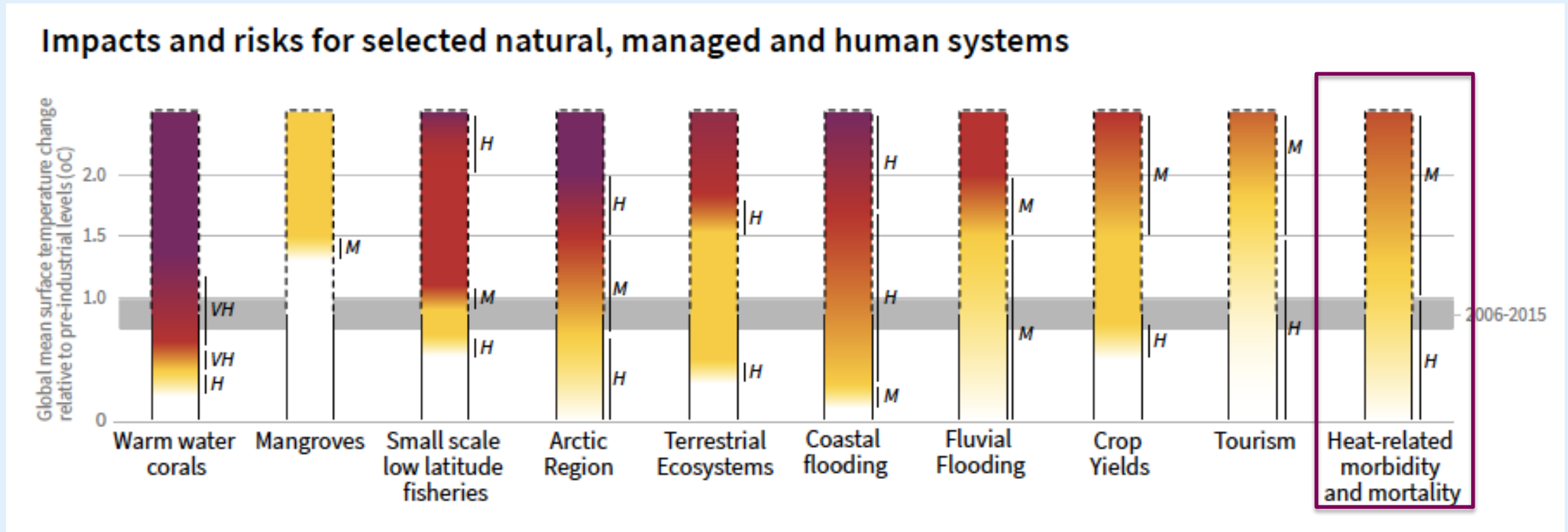
% of Years in Each Period

SMALL CHANGE IN AVERAGE BIG CHANGE IN EXTREMES



Diffenbaugh 2012

How the level of global warming affects impacts and/or risks for selected natural, managed, and human systems



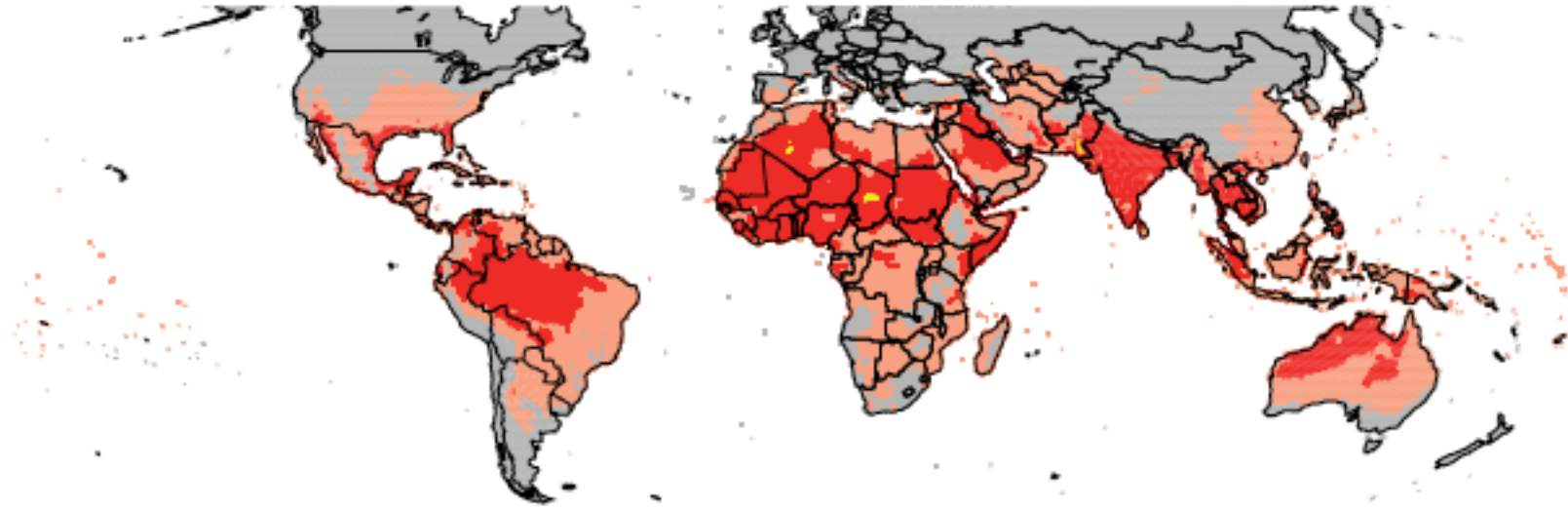
Purple indicates very high risks of severe impacts/risks and the presence of significant irreversibility or the persistence of climate-related hazards, combined with limited ability to adapt due to the nature of the hazard or impacts/risks.

Red indicates severe and widespread impacts/risks.

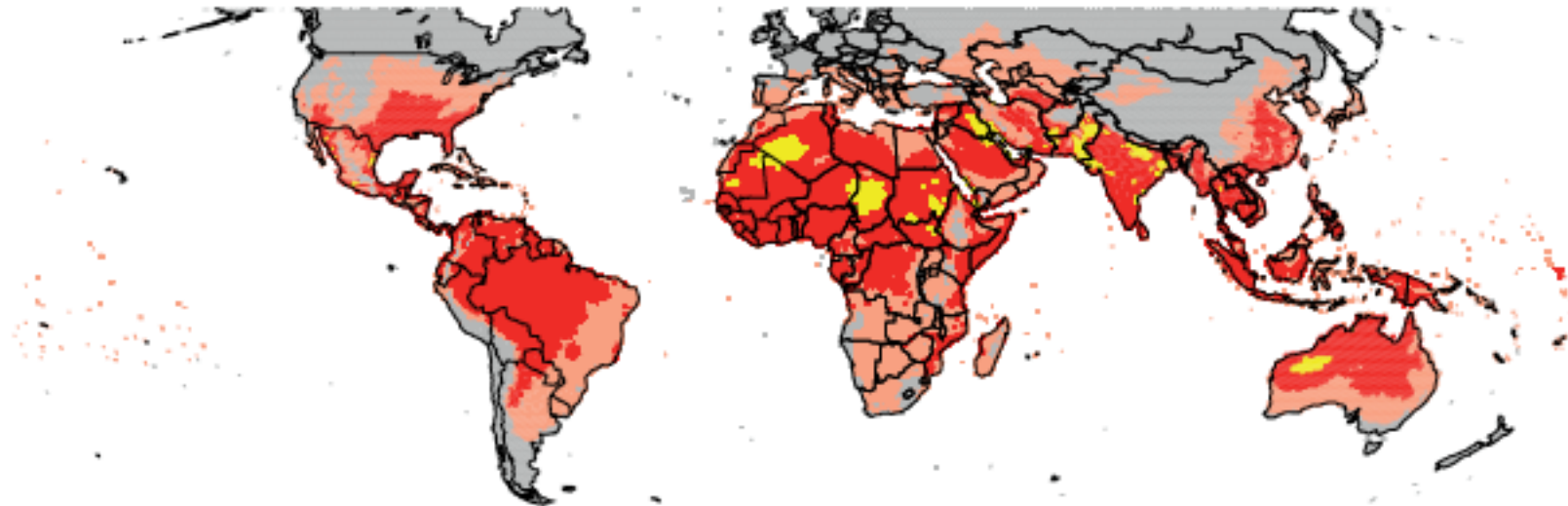
Yellow indicates impacts/risks are detectable and attributable to climate change with at least medium confidence.

White indicates that no impacts are detectable and attributable to climate change.

Temperatures from the recent past (1986–2005)



1.5°C global temperature increase



Risks of occupational heat exposure in the shade during the hottest part of the day, averaged over the hottest month

