



# From IPCC WGII AR5 to AR6

Joy Jacqueline Pereira, Vice-Chair WGII

Outreach Event on IPCC Activities and Findings  
Nay Pyi Taw, Myanmar, 30-31 May 2019

[http://bit.ly/ipcc\\_outreach\\_myanmar](http://bit.ly/ipcc_outreach_myanmar)

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INTERGOVERNMENTAL PANEL ON climate change



# Asia

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# Chapter 24, Asia: Coverage - 51 countries/regions

Source: IPCC, 2013

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## Central Asia (5)

- Kazakhstan
- Kyrgyzstan
- Tajikistan
- Turkmenistan
- Uzbekistan

## North Asia (2)

- Mongolia
- Russia (East of Urals)

## East Asia (7)

- China, Hong Kong Special Administrative Region (Hong Kong SAR)
- China, Macao Special Administrative Region
- Japan
- North Korea
- People's Republic of China (China)
- South Korea
- Taiwan Province of China (Taiwan POC)

## West Asia (17)

- Armenia
- Azerbaijan
- Bahrain
- Georgia
- Iran
- Iraq
- Israel
- Jordan
- Kuwait
- Lebanon
- Palestine
- Oman
- Qatar
- Saudi Arabia
- Syria
- United Arab Emirates
- Yemen

## South Asia (8)

- Afghanistan
- Bangladesh
- Bhutan
- India
- Maldives
- Nepal
- Pakistan
- Sri Lanka

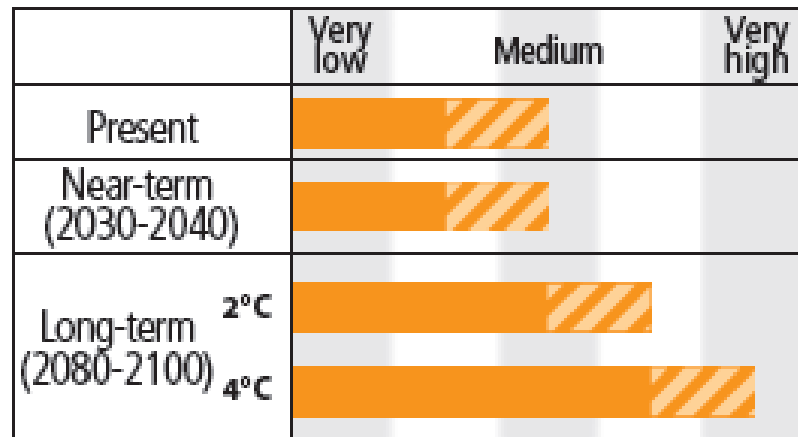
## Southeast Asia (12)

- Brunei
- Indonesia
- Lao People's Democratic
- Malaysia
- Myanmar
- Papua New Guinea
- The Philippines
- Republic Cambodia
- Singapore
- Thailand
- Timor-Leste
- Vietnam

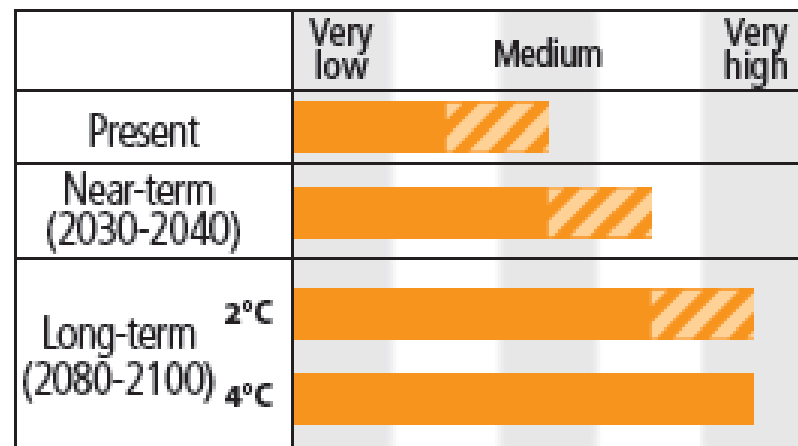


# Key Risks in Asia

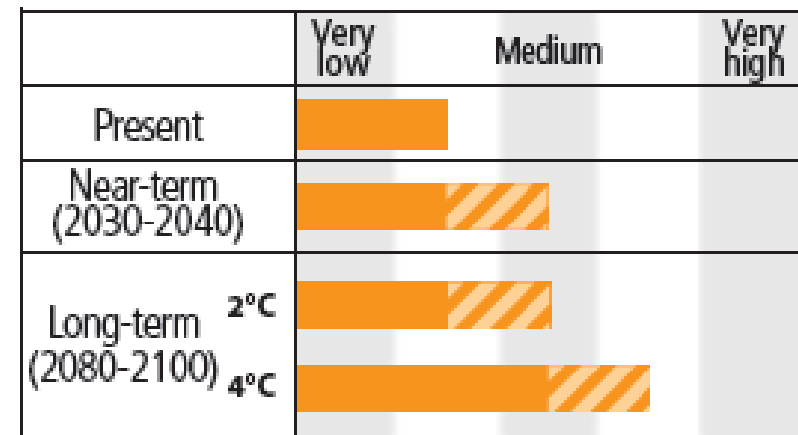
Increased coastal, riverine and urban flooding leading to widespread damage to infrastructure and settlements in Asia (medium confidence)



Increased risk of heat-related mortality (high confidence)



Increased risk of drought-related water and food shortage causing malnutrition (high confidence)

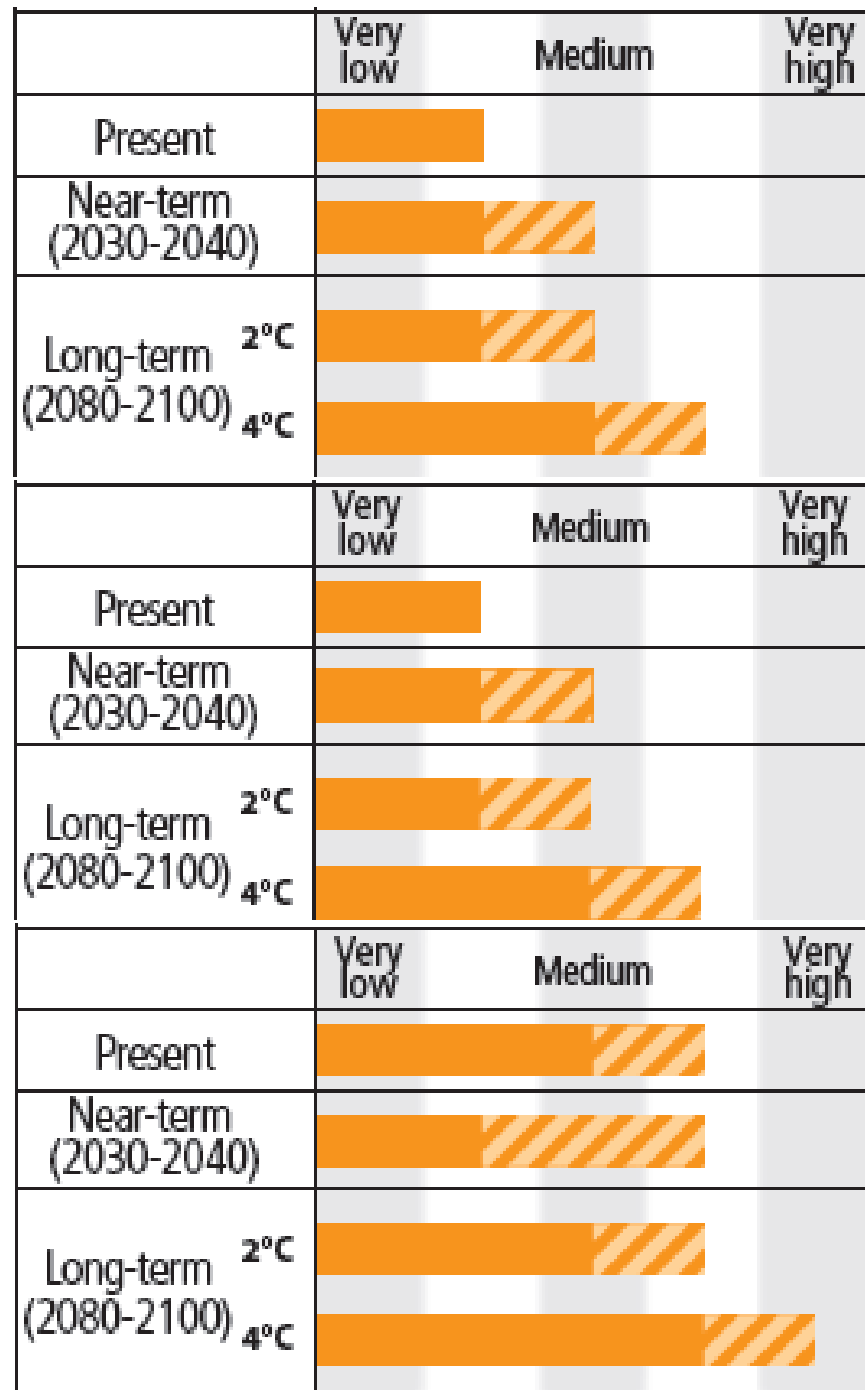


# Key Risks in Asia

Increased risk of flood-related deaths, injuries, infectious diseases and mental disorders (medium confidence)

Increased risk of water and vector-borne diseases (medium confidence)

Exacerbated poverty, inequalities and new vulnerabilities (high confidence)



# Key Risks in Asia

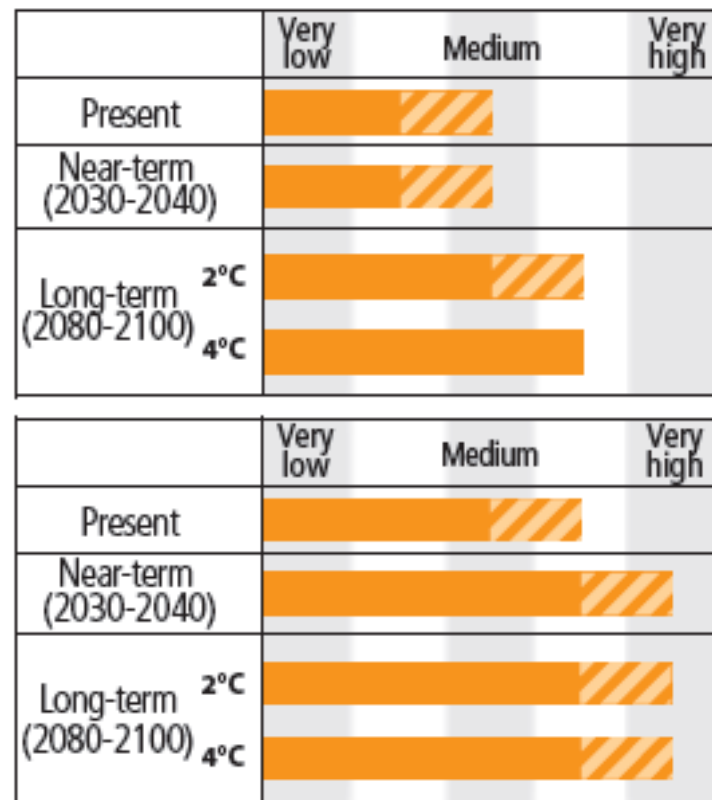
Increased risk of crop failure and lower crop production could lead to food insecurity in Asia (medium confidence)

Water shortage in arid areas of Asia (medium confidence)

## KEY CONCLUSIONS: IPCC-WG2

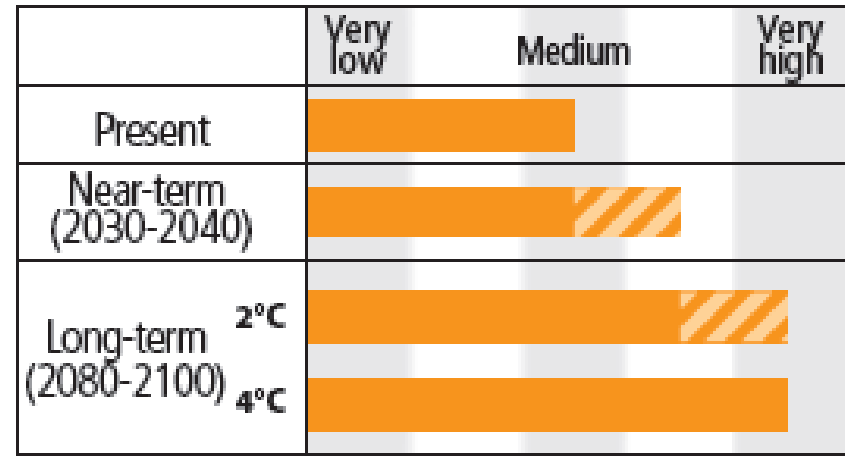
### Chapter 24, Asia

- ❑ Water scarcity is expected to be a major challenge for most of the region due to increased water demand and lack of good management (*medium confidence*)
- ❑ There is *low confidence* in future precipitation projections at a sub-regional scale and thus in future freshwater availability in most parts of Asia.
- ❑ Integrated water management strategies could help adapt to climate change, including developing water saving technologies, increasing water productivity, and water reuse.

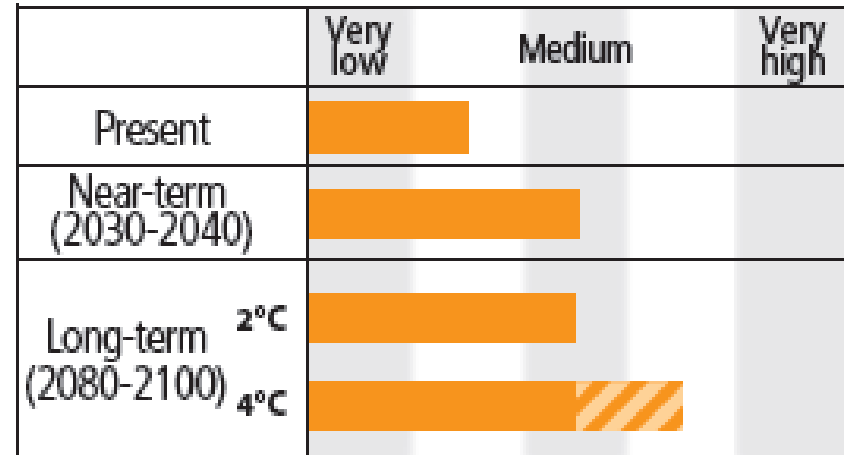


# Key Risks in Asia

**Coral reef decline in Asia (high confidence)**



**Mountain-top extinctions in Asia (high confidence)**

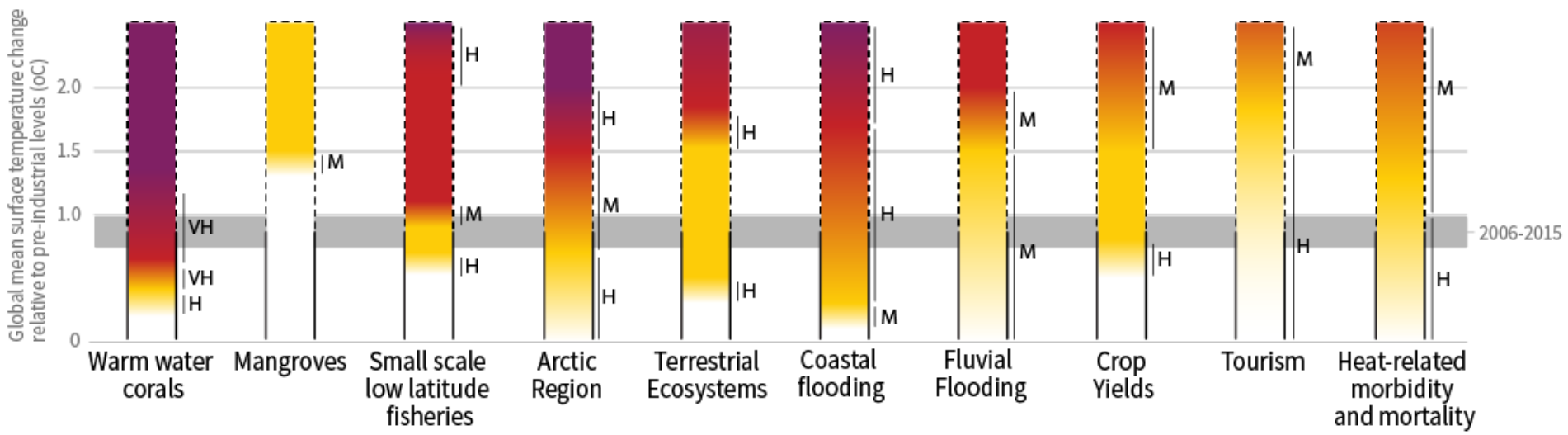


# Adaptation is already occurring

- 
- Combining Traditional and Scientific Knowledge
  - Adapting Communications Infrastructure
  - Coastal & Water Management
  - Environmental Protection & Land Planning
  - Disaster Risk Management
  - Municipal-Level Actions
  - Adapting Energy & Public Infrastructure
  - Disaster Risk Management
  - Basic Public Health
  - Livelihood Diversification
  - Development Planning
  - Early Warning Systems
  - Mangrove Reforestation
  - Water Resources Management
  - Ecosystem-Based Adaptation
  - Water Resources Management
  - Resilient Crop Varieties
  - Planning for Sea-Level Rise
  - Planning for Reduced Water Availability
  - International Cooperation
  - Marine Spatial Planning



## Impacts and risks for selected natural, managed and human systems



Confidence level for transition: L=Low, M=Medium, H=High and VH=Very high

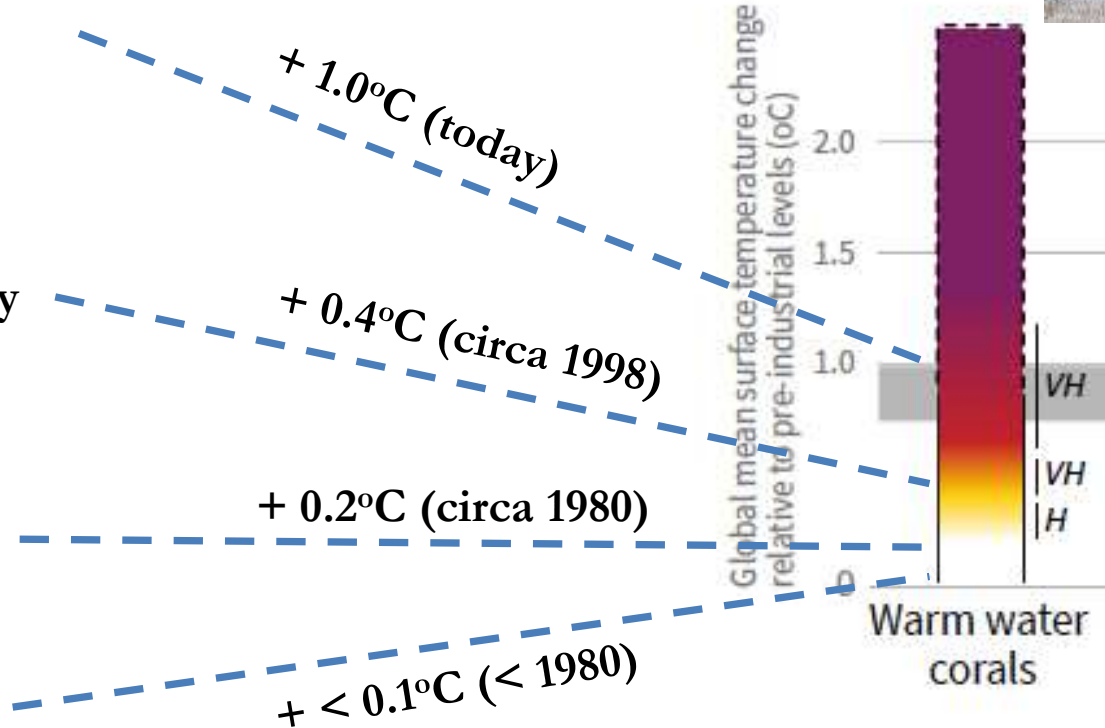
# Global Warming of 1.5°C

First back-to-back global mass bleaching and mortality events

First global mass bleaching and mortality event

Localised mass coral bleaching reported

No reports of mass coral bleaching



Glynn 1983, Hoegh-Guldberg 1999, Hughes et al 2017a,b

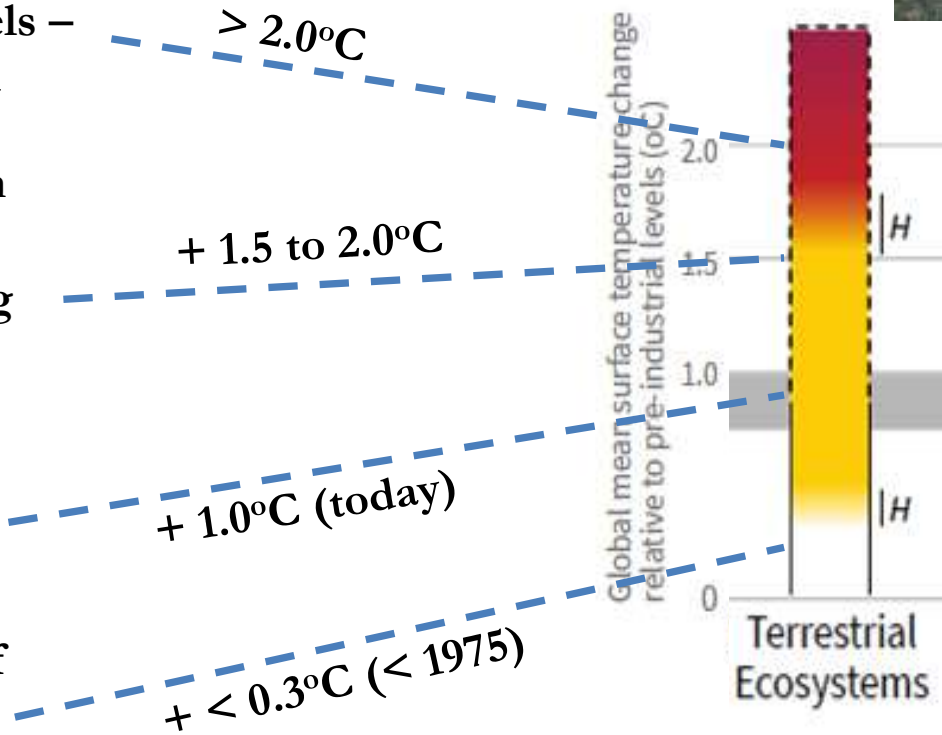
# Global Warming of 1.5°C

**Biome shifts** and species range losses escalate to very high levels – adaptation options very limited

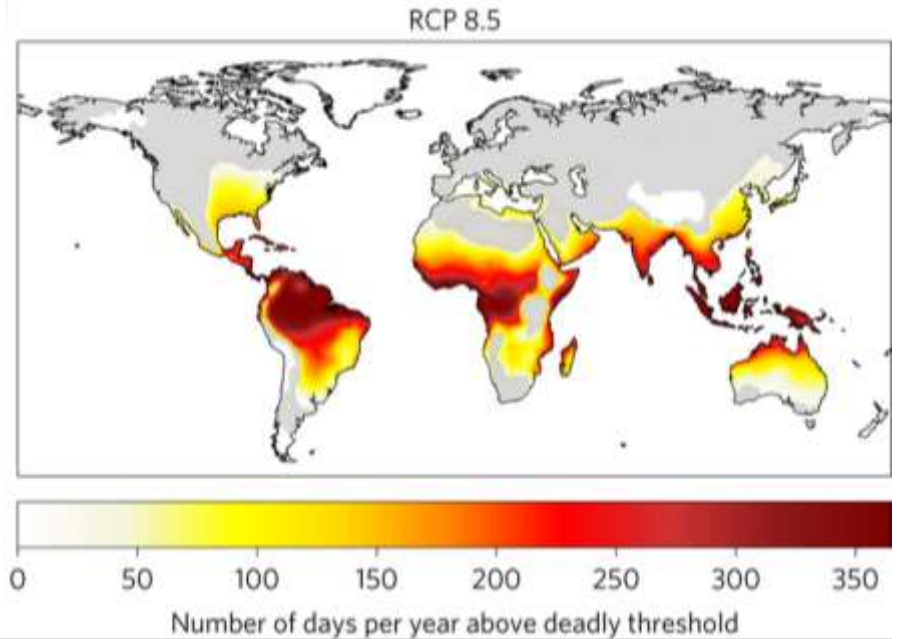
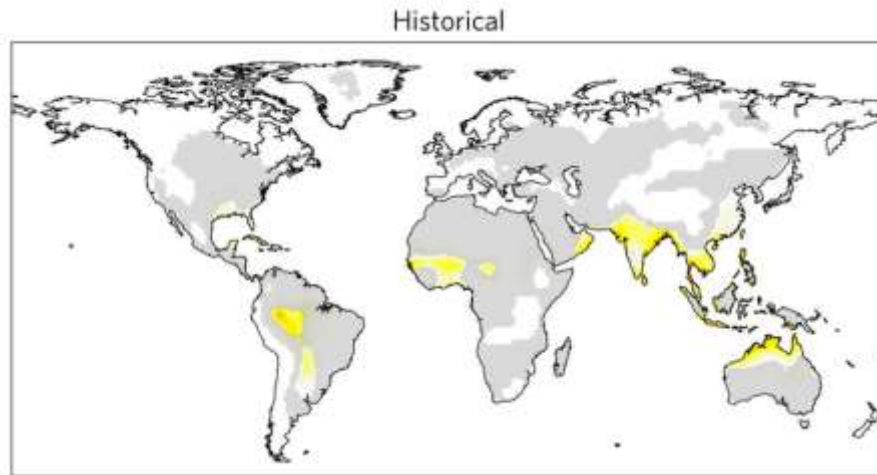
Extensive shifts of biomes with doubling or tripling of the plants, animals or insects losing over half of their climatically determined geographic ranges

Some climate change impacts evident

No detection and attribution of impacts of global warming on terrestrial ecosystems

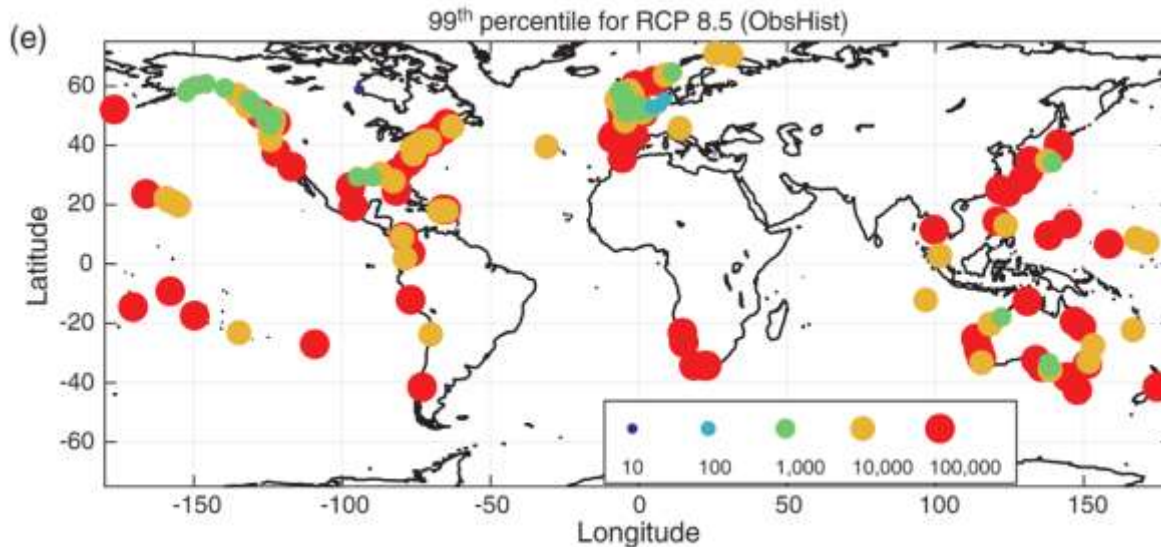


# Heat stress frequency: global



Mora et al. 2017

# Increased risk of extreme sea level events



**10,000x** means that a current once-a-century flooding level is reached nearly every few days at normal high tide

Goodwin et al. 2017

- **Current national commitments are not enough to keep to either 1.5°C or 2°C**
- **Would require deep changes in all aspects of society (e.g. energy, land, buildings, transport, food & diets, cities)**
- **New technologies, efficiency, cleaner energy sources, less deforestation, new land uses, sustainable agriculture**
- **Good news is there is movement in the right direction in lots of these areas but would need to do more, faster**
- **But this would require greater collective ambition**

# THANK YOU FOR YOUR ATTENTION!

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