



Latest information on climate change and health

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The Intergovernmental Panel of Climate Change (IPCC)

2500 scientific expert reviewers

900 contributing authors

450 lead authors from

130 countries

6 years

1 report

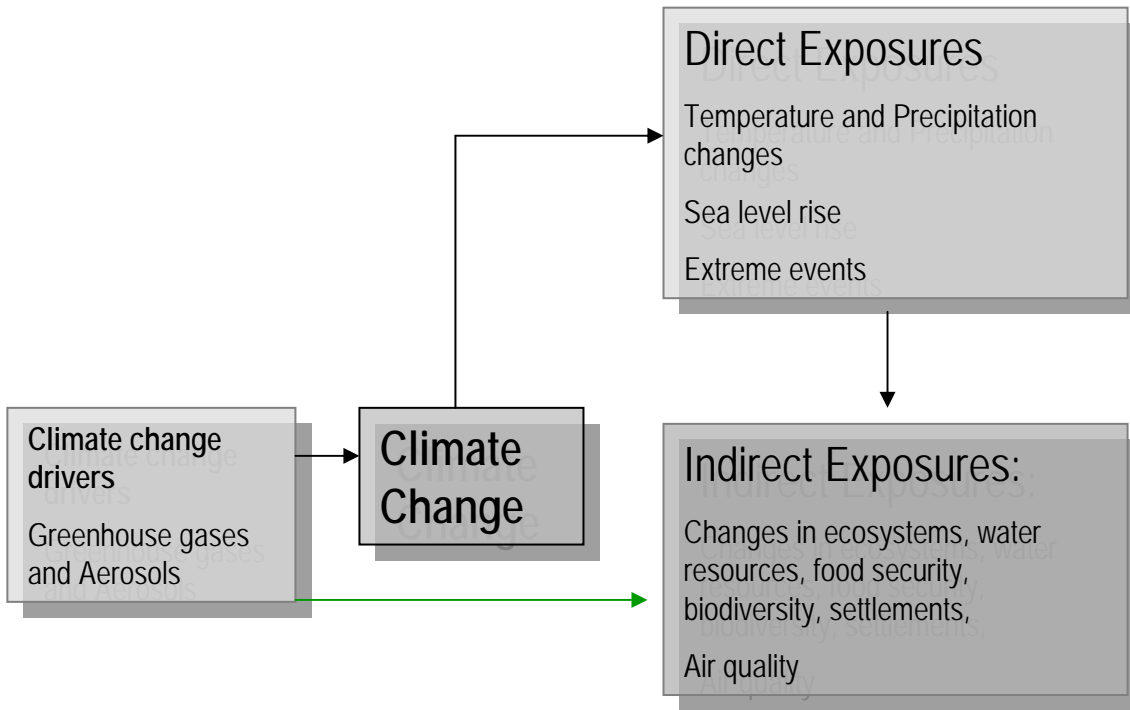
4 governmental approval sessions



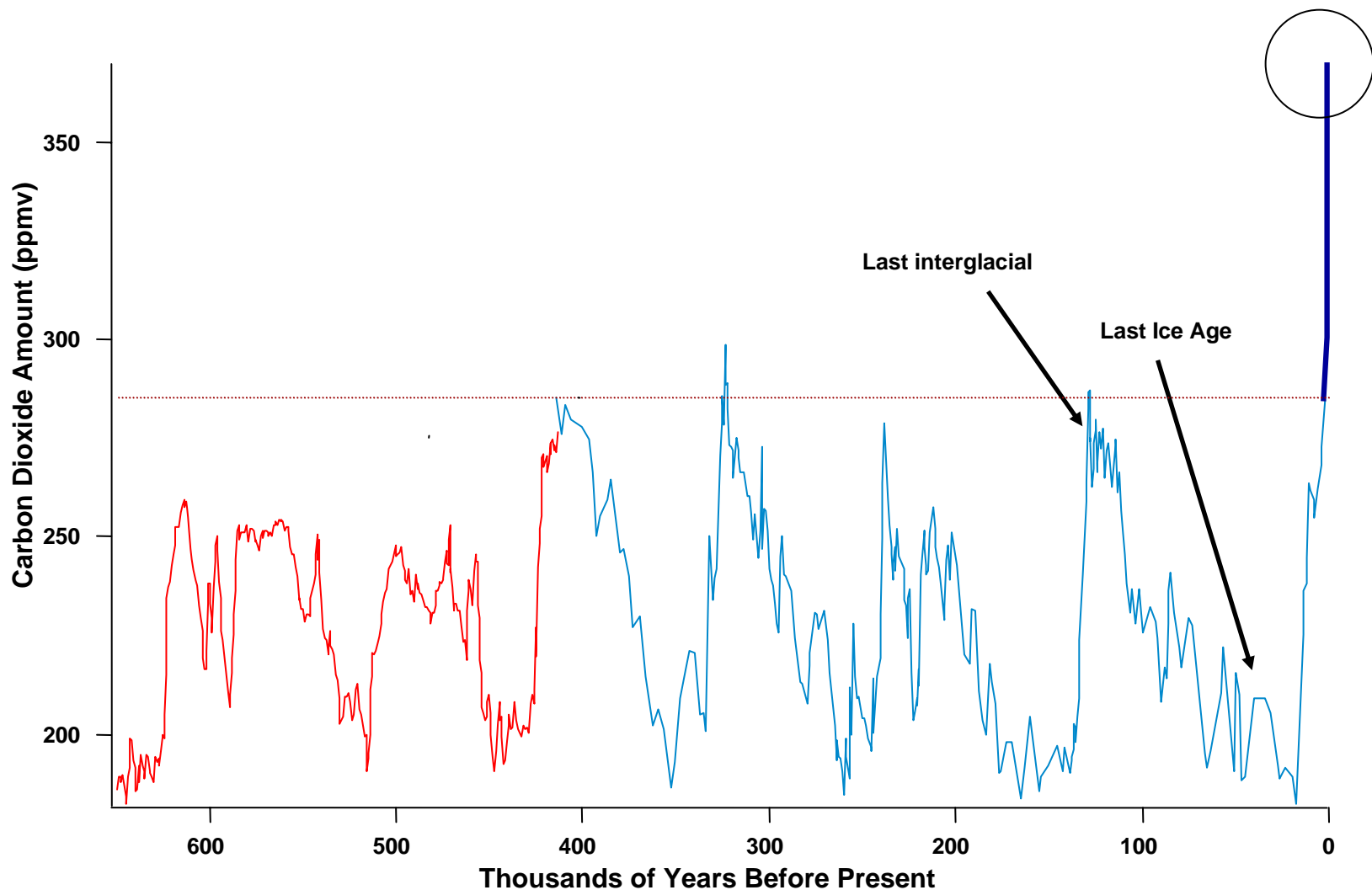
Thanks to: Ulisses Confalonieri, Rais Akhtar, Kris Ebi, Maria Hauengue, Sari Kovats, Boris Revich, Alistair Woodward Curto Susanna, Tony McMichael et al.

Key messages

- **The climate is changing**
- **It has already affected health;**
- **Projected climate change-related exposures are likely to affect the health status of millions of people;**
- **All regions in the world are affected;**
- **Adaptive capacity needs to be improved everywhere;**
- **Critically important will be education, health system development, access, information etc**
- **Review, development or adjustments of public health activities are necessary**



CO₂ has not been this high in more than half a million years.

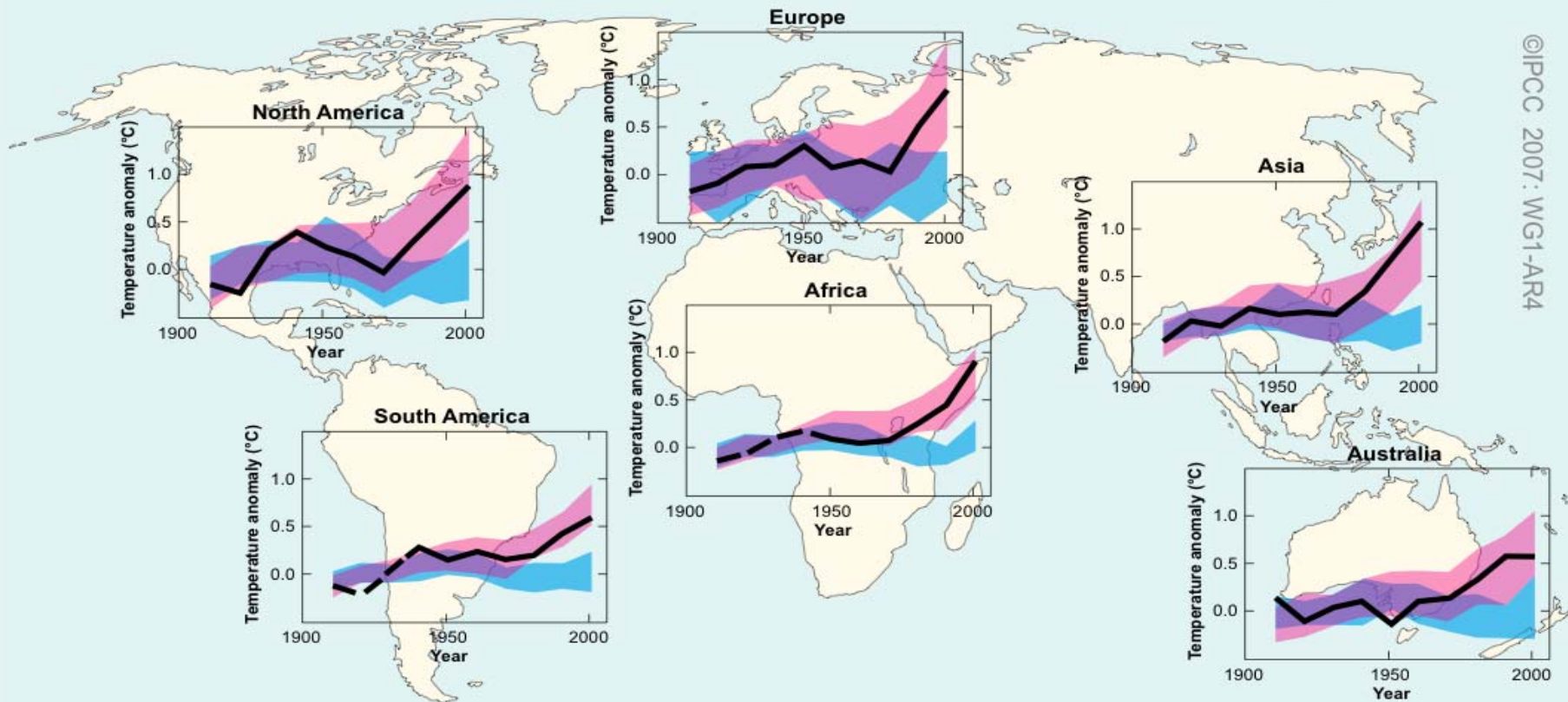


[Adapted from Figure 6.3, ©IPCC 2007: WG1-AR4]

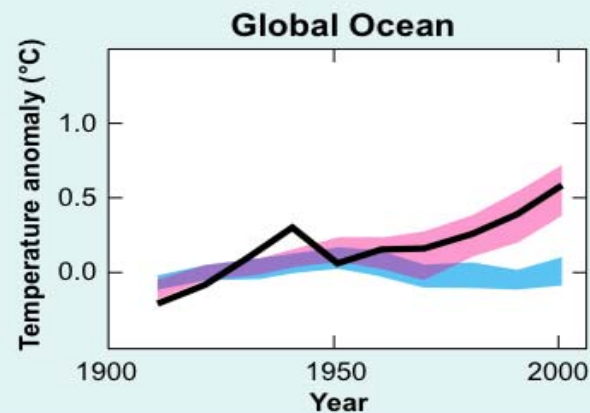
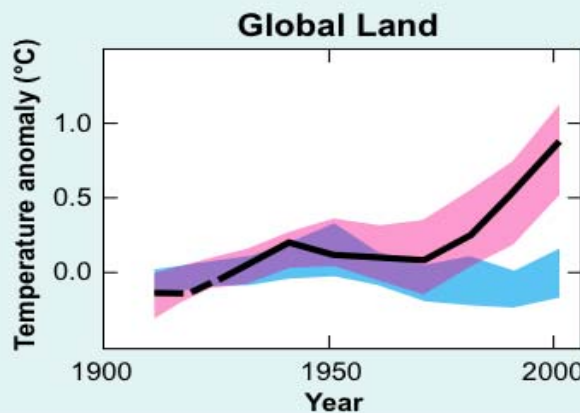
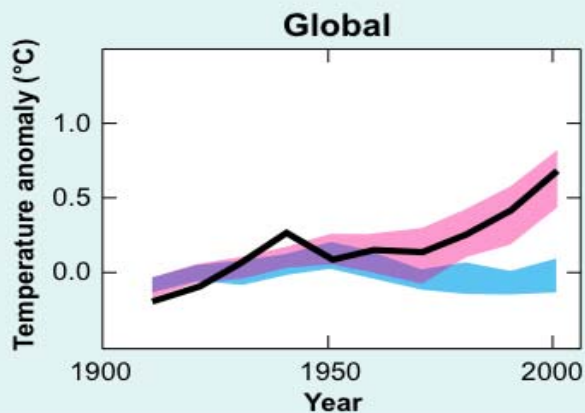
CO₂ increases due to fossil fuel burning are the dominant cause of global warming



Global and Continental Temperature Change

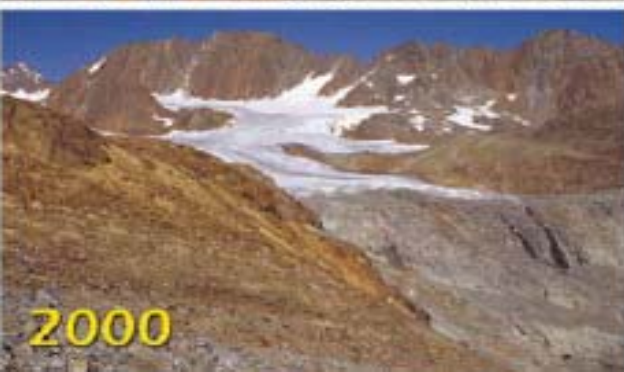


©IPCC 2007: WG1-AR4





1985



2000

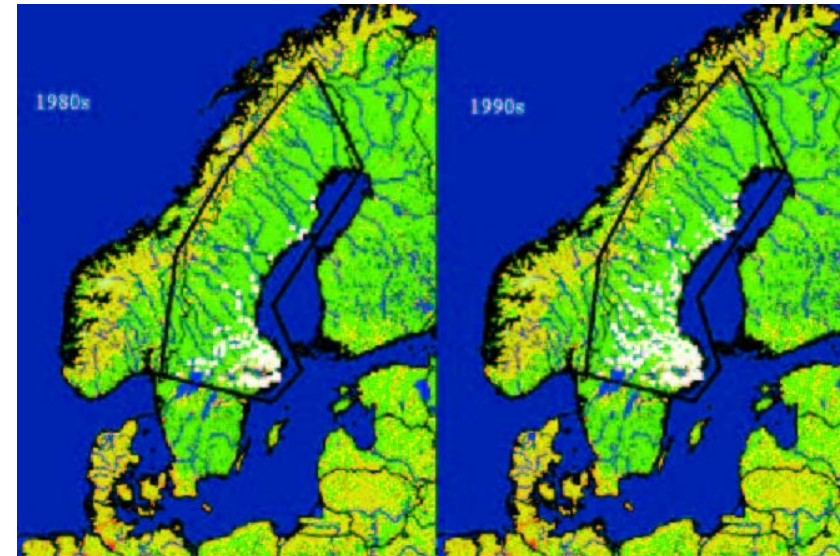
Retreat of glaciers



Ice melting

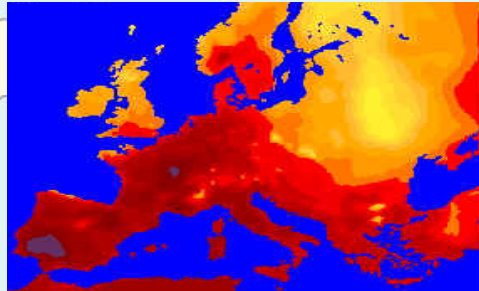
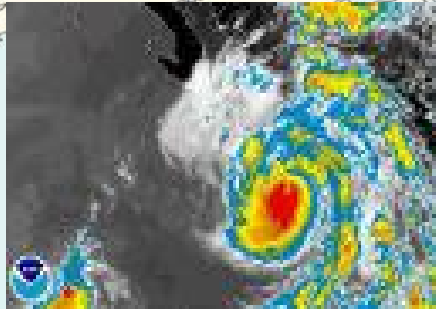


Higher tree limits



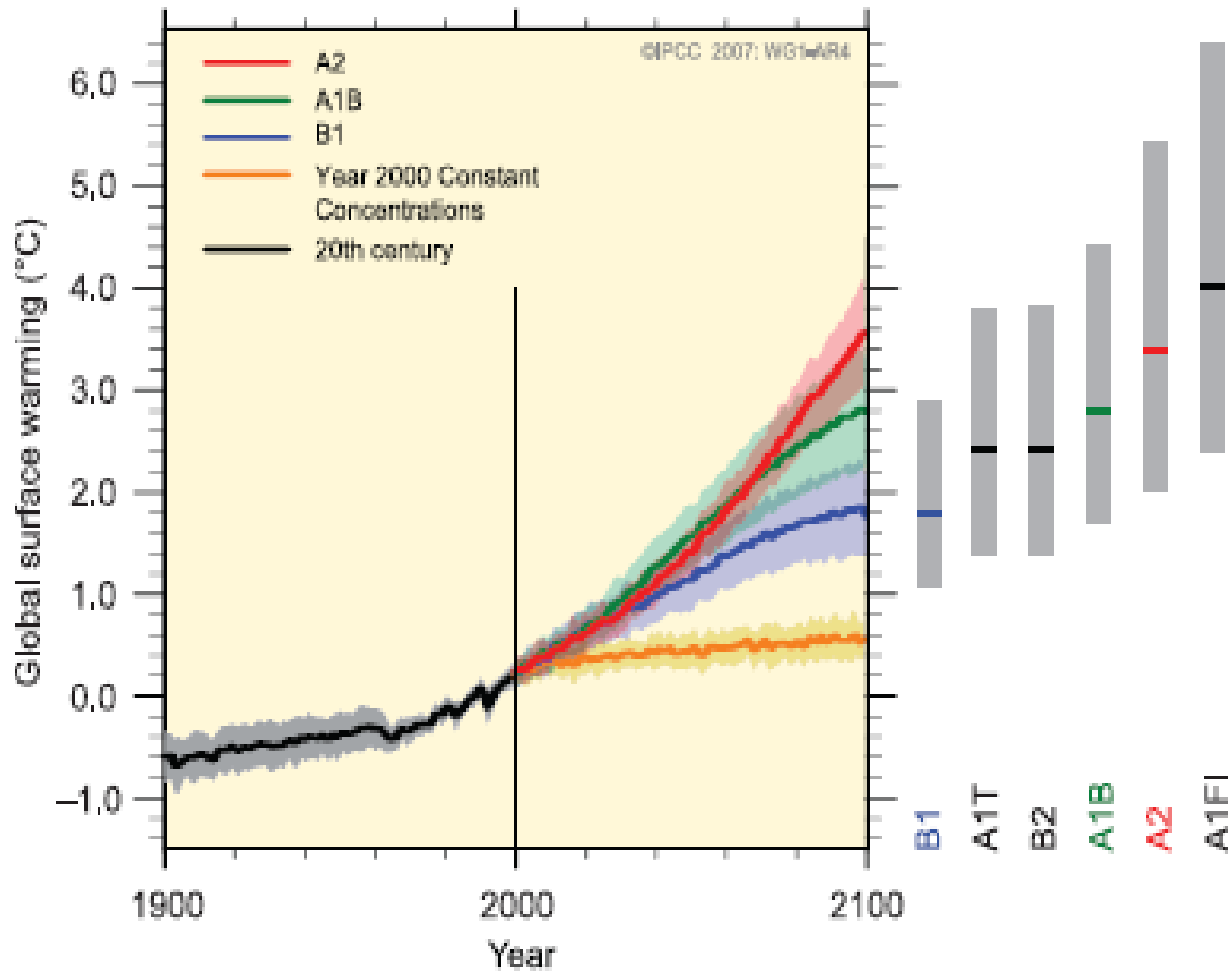
Ticks in higher altitudes





Increase of frequency of extreme weather events

MULTI-MODEL AVERAGES AND ASSESSED RANGES FOR SURFACE WARMING



Projected climate change related exposures



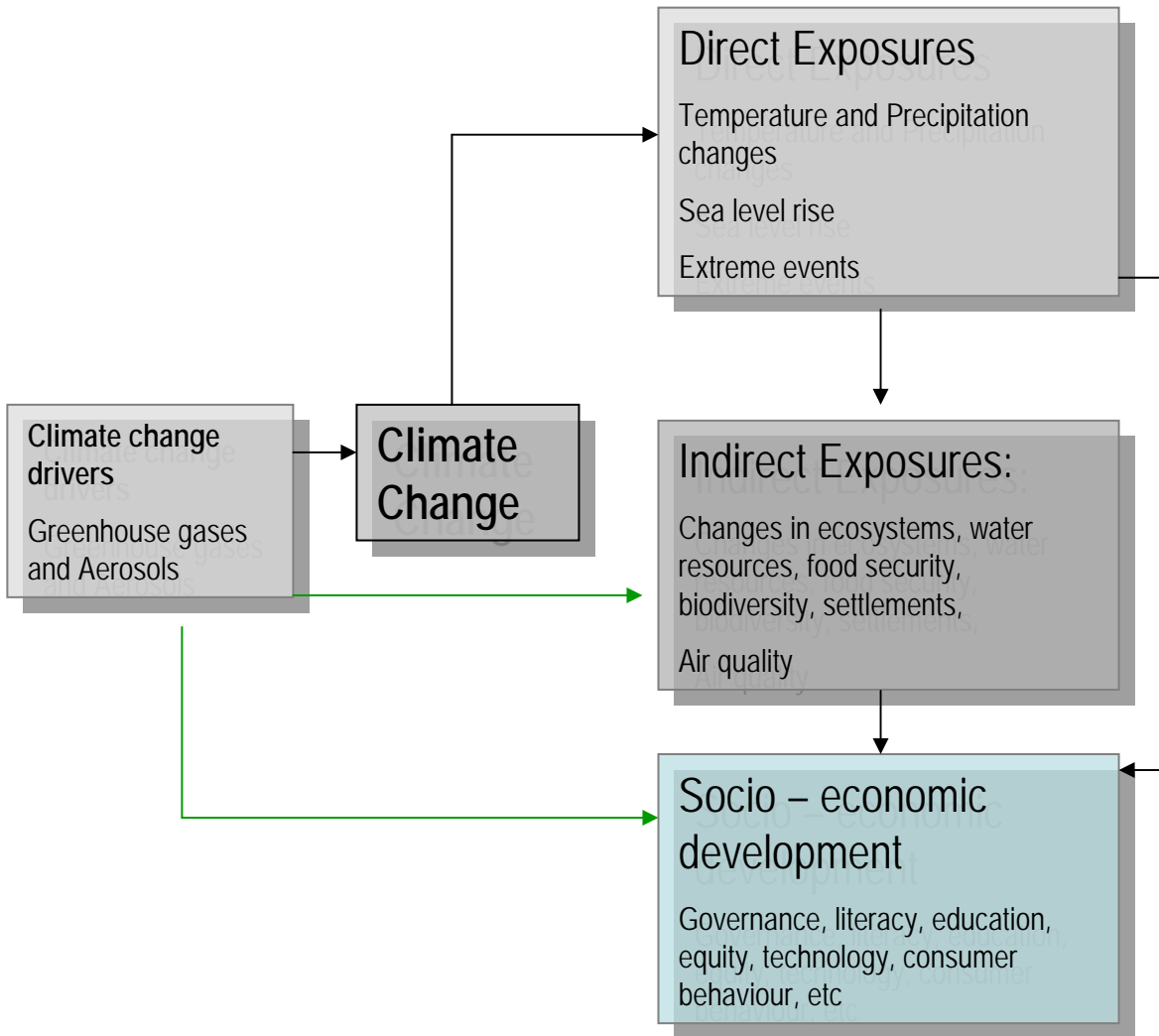
• **Water:** By 2050, water availability is projected to decrease by 10-30% over some dry regions at mid-latitudes and in the dry tropics.



• **Food:** At lower latitudes, especially seasonally dry and tropical regions, crop productivity is projected to decrease for even small local temperature increases (1-2°C), which would increase risk of hunger.



• **Air quality:** Future climate change may cause significant air quality degradation by changing the dispersion rate of pollutants, the chemical environment for ozone and aerosol generation and the strength of emissions from the biosphere, fires and dust.



The economic damage will be large

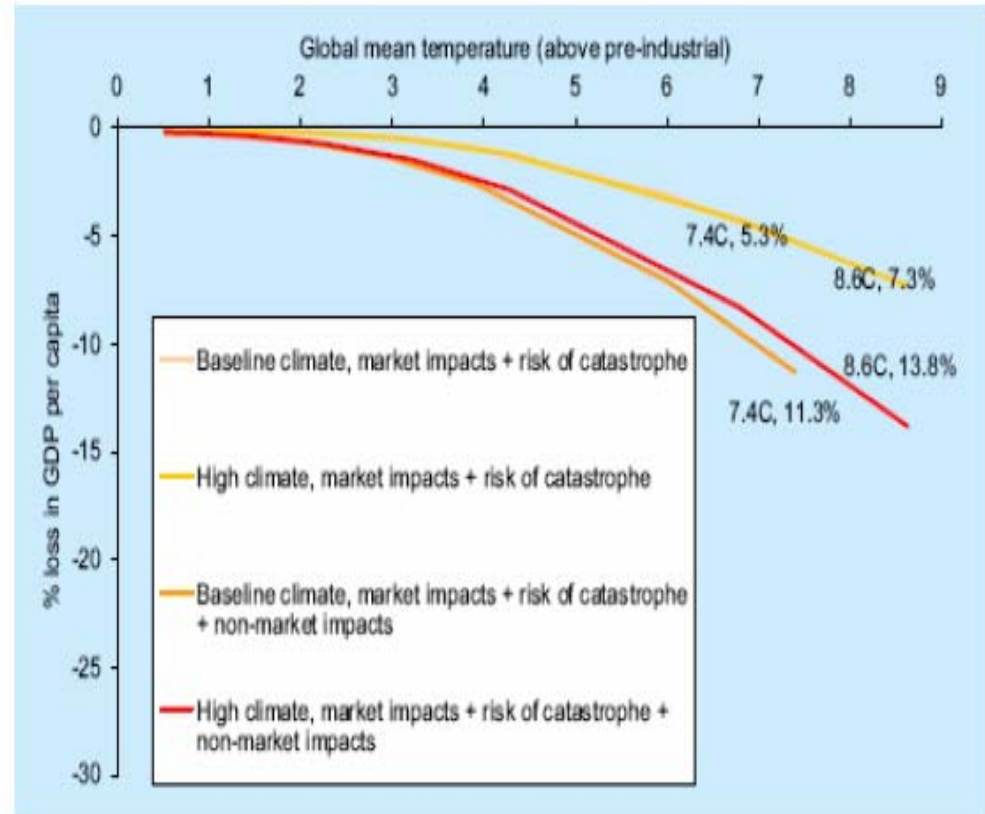
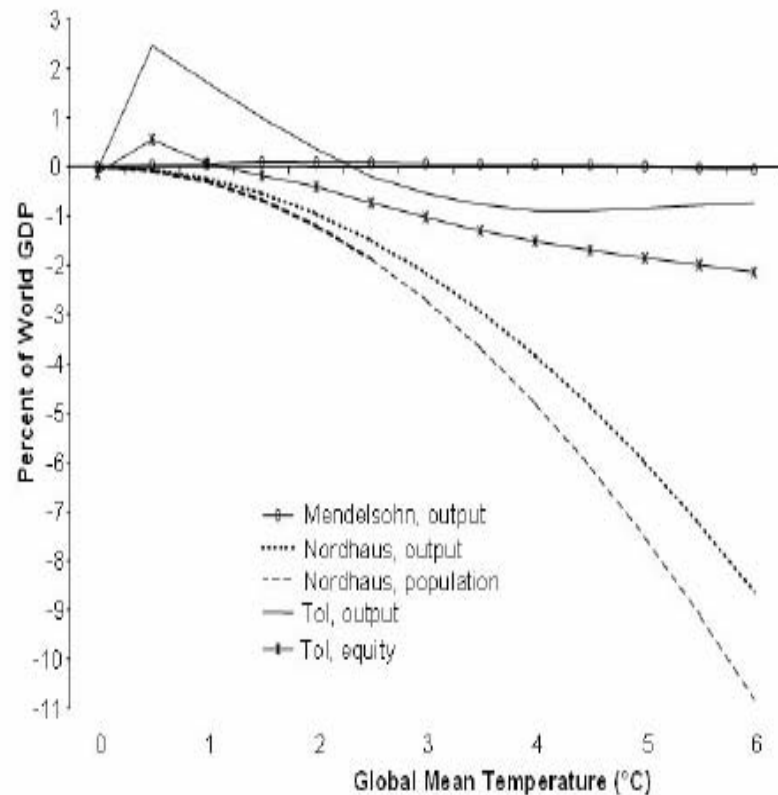
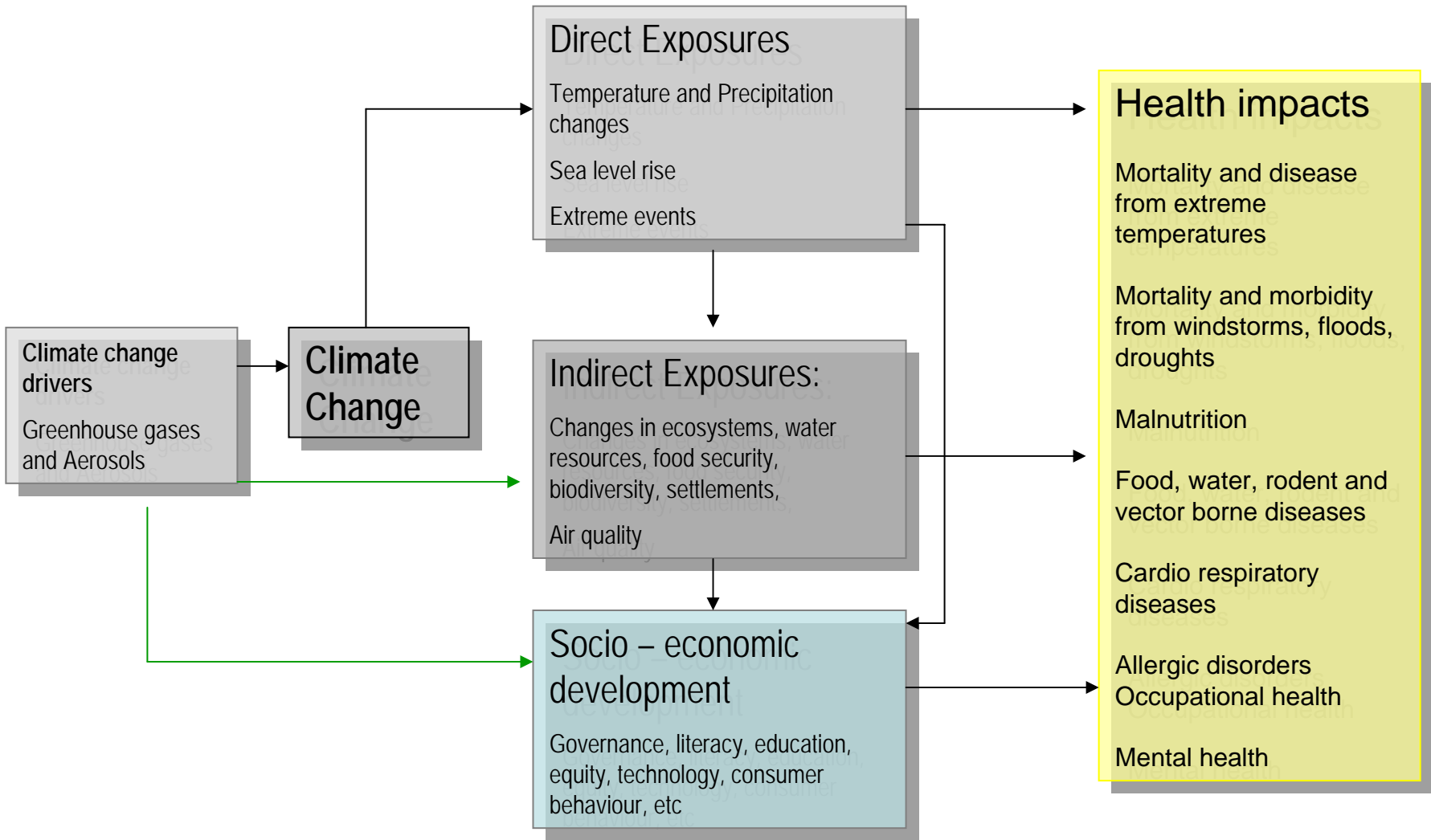


Figure 20.3a: (left): Damage estimates, as a percent of global GDP, as correlated with increases in global mean temperature. Source: IPCC, 2001b. **Figure 20.3b:** (right): Damage estimates, as a percent of global GDP, as correlated with increases in global mean temperature. Source, Stern et al. (2006).



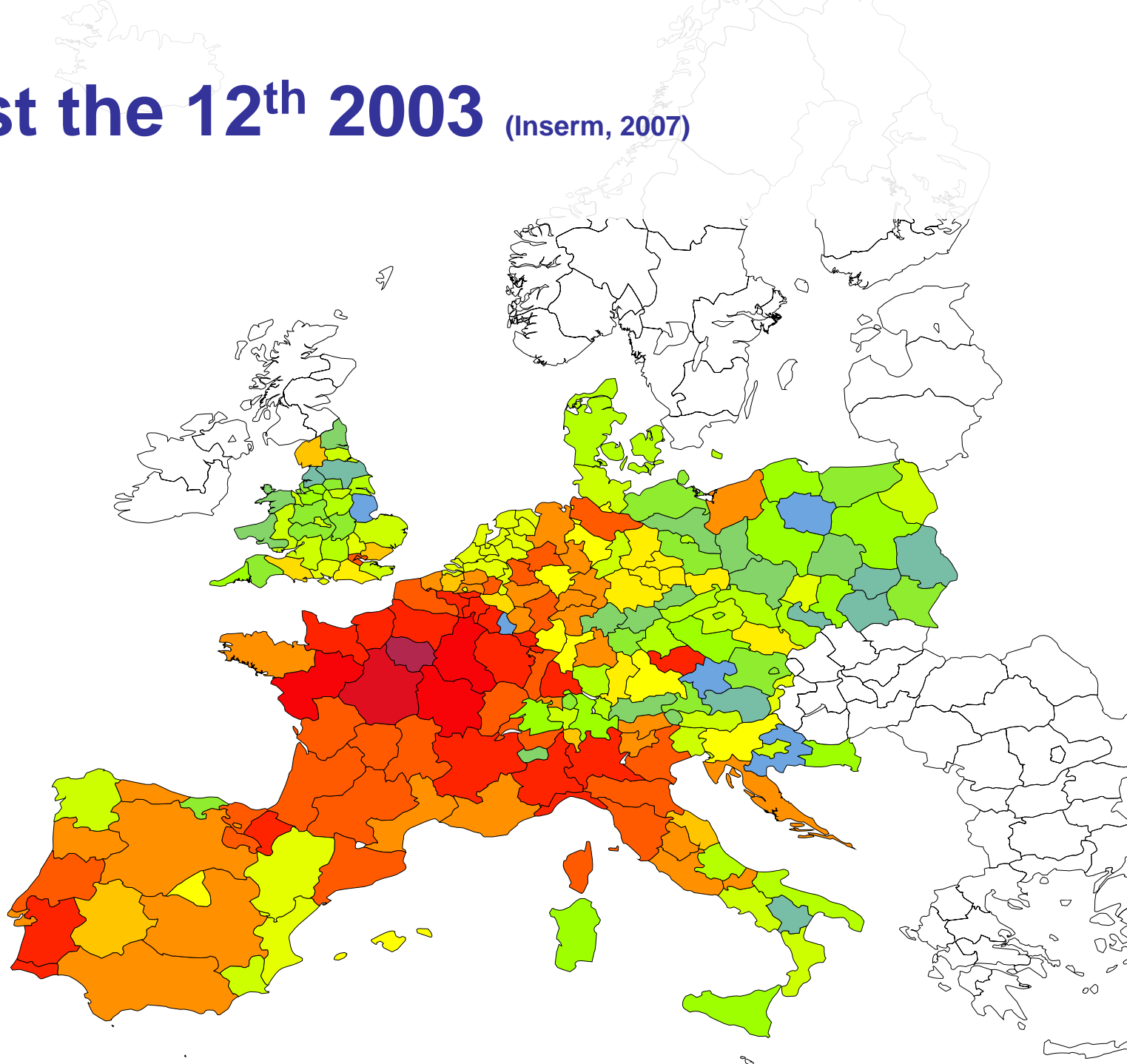
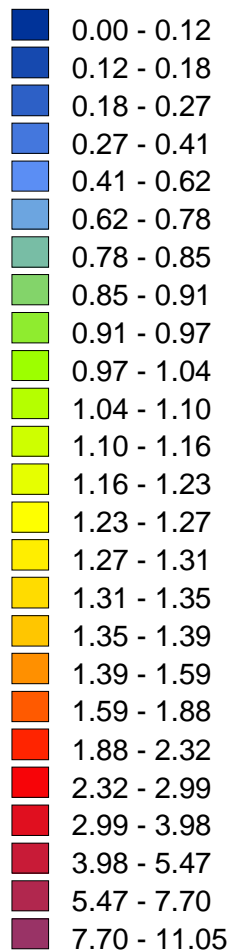
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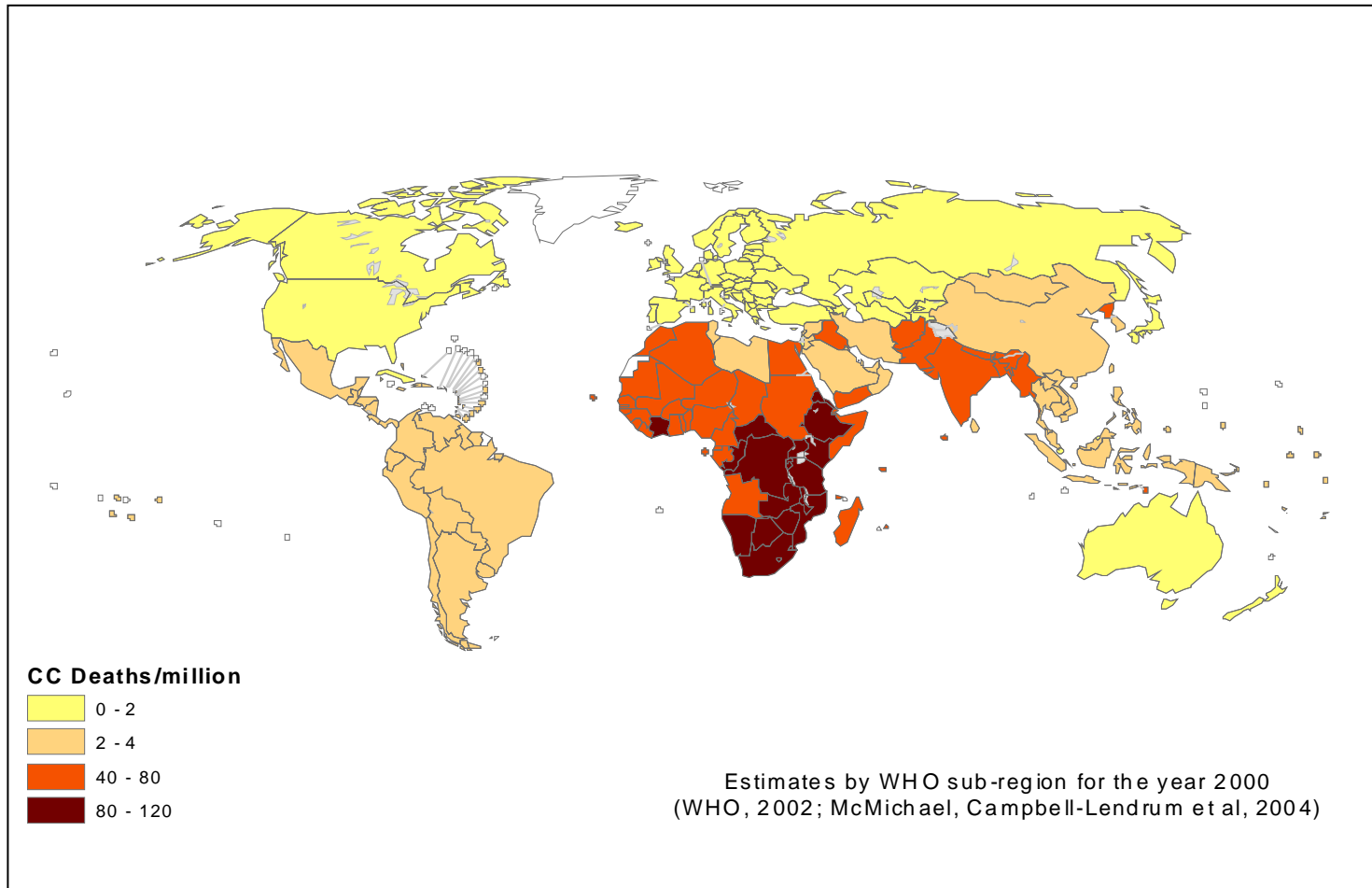
Adapted from Confalonieri et al, 2007; Patz et al, 2000; McMichael et al, 2003

August the 12th 2003 (Inserm, 2007)

Percentage
Mortality exceedance











Climate change already contributed to 0.3-0.4% of the global burden of disease and premature deaths in 2000

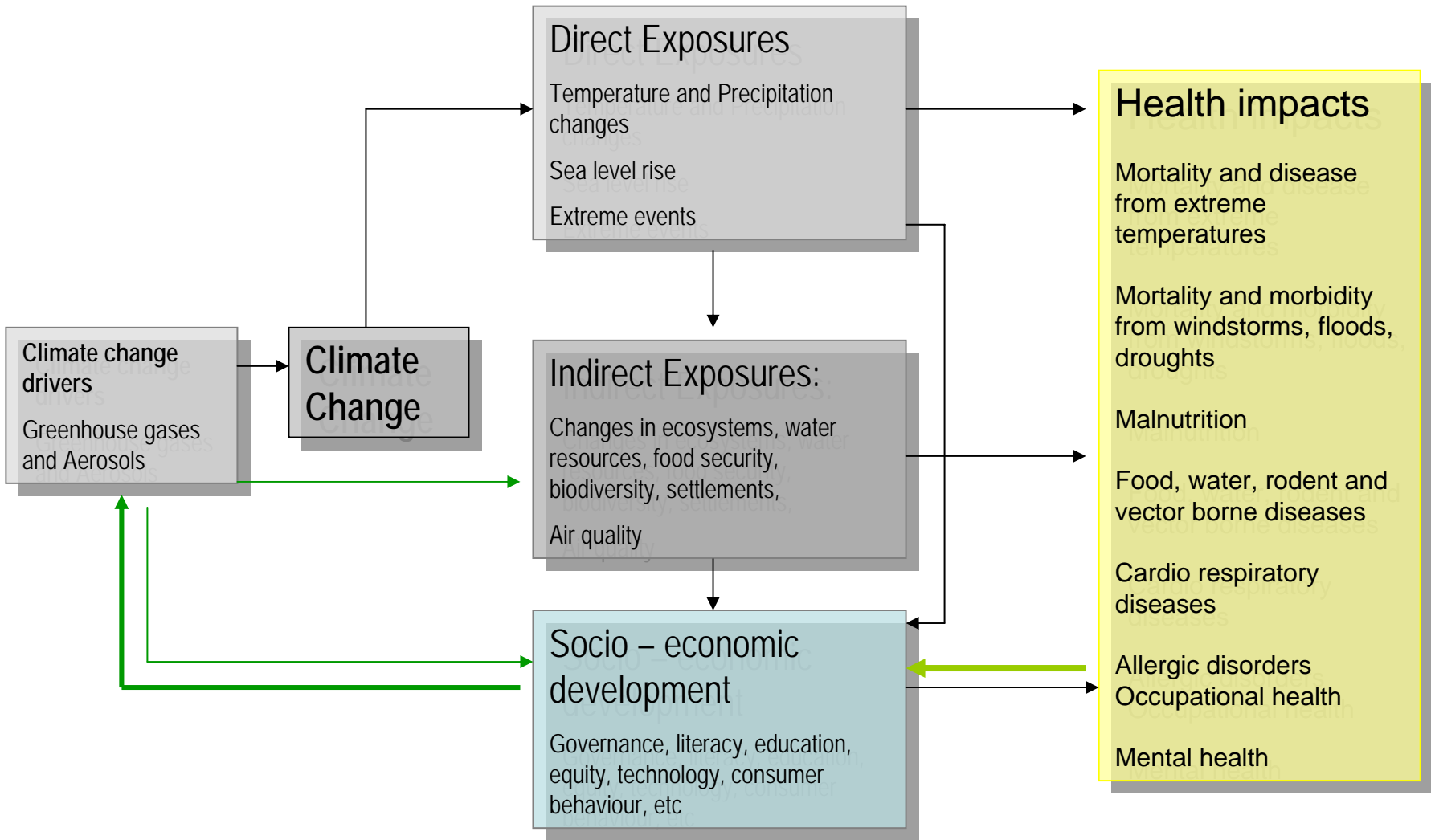


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Millions of people will be at additional risk

	Negative Consequences	Positive Consequences
<i>Malnutrition</i>		
<i>Consequences from extreme weather events</i>		
<i>Diarrhoeal diseases</i>		
<i>Cardiorespiratory from air pollutants</i>		
<i>Mixed on malaria</i>		
<i>Changes in ranges of some vectors</i>		
<i>Reduction of cold deaths</i>		

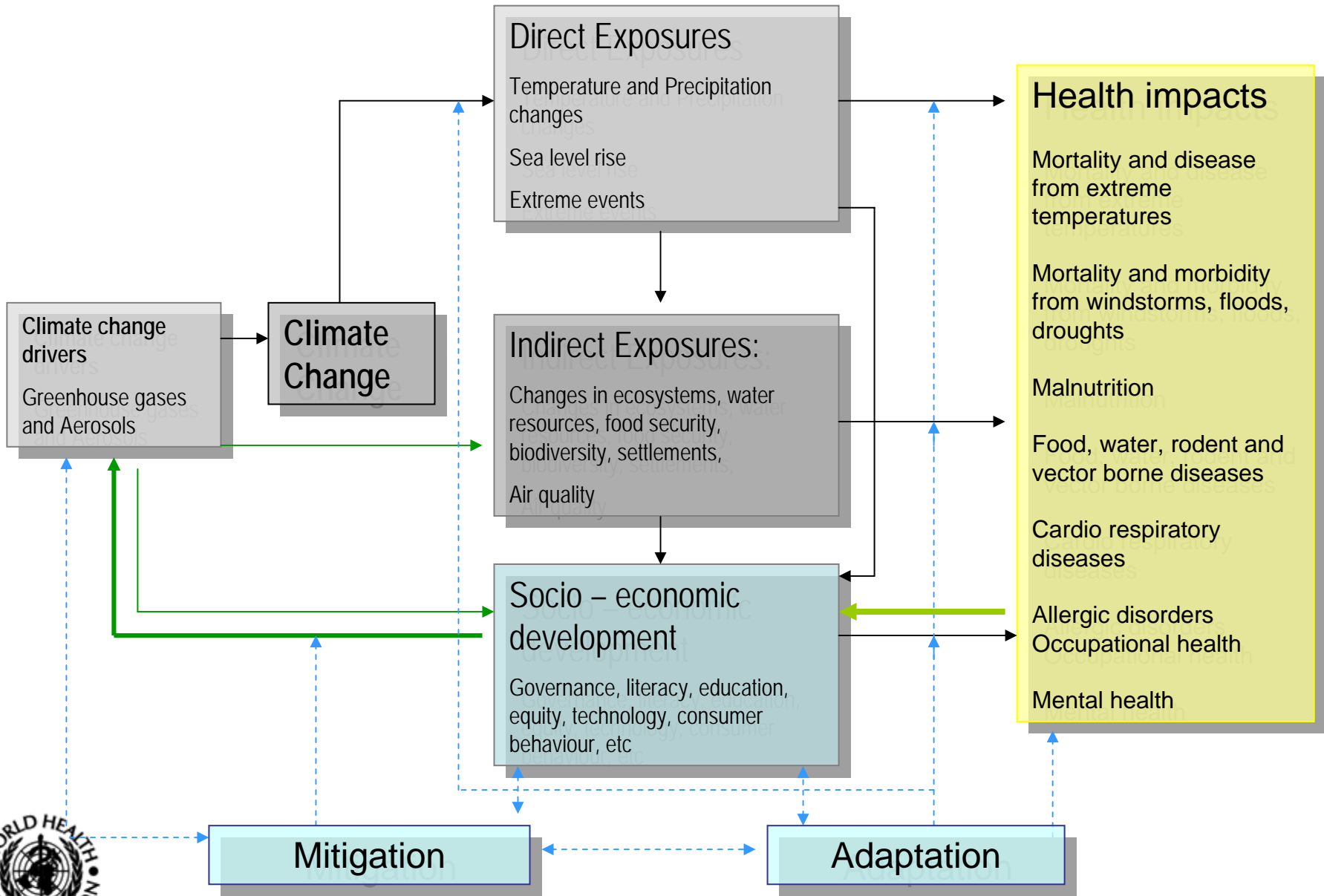




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Adapted from Confalonieri et al, 2007; Patz et al, 2000; McMichael et al, 2003



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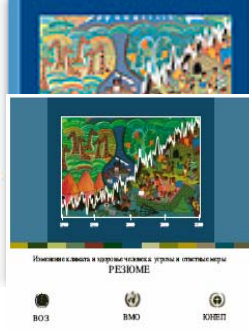
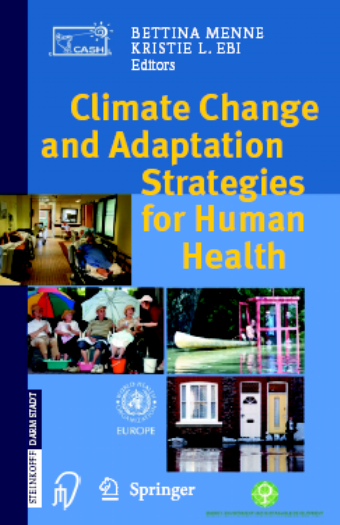
Adapted from Confalonieri et al, 2007; Patz et al, 2000; McMichael et al, 2003

Mitigation - Adaptation

- **Health co-benefits from reduced air pollution as a result of actions to reduce GHG emissions can be substantial and may offset a substantial fraction of mitigation costs**
- **Adaptation actions at different scales**
 - Local, national, regional, international
 - Using opportunities
- **Health system responses**
 - Reviewing and strengthening current primary and secondary prevention
- **Integration across scales**

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<http://www.euro.who.int/globalchange>

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WHO Euro activities

Providing leadership on matters critical to health and engaging in partnerships where joint

Two Ministerial Environment and Health Conference Declarations

RC resolution:

Shaping the research agenda

Articulating ethical and evidence-based policy options

Providing technical support

Monitoring the health situation





WHO Euro

Global change and health

<http://www.euro.who.int/globalchange>

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WHO Regional Office for Europe

European Centre for Environment and Health



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