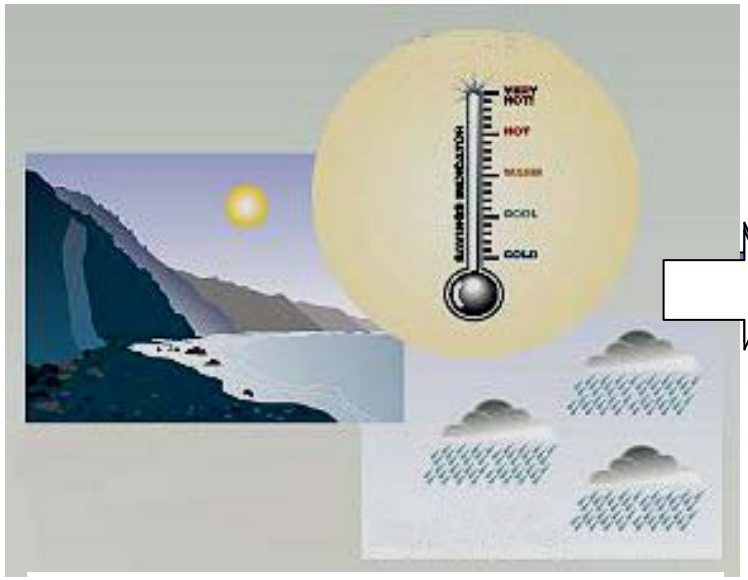
Variety of Impacts

气候变化的后果



- 温度升高
- 海平面上升
- 降雨增加

Source: UNEP

农业及食品安全
农作物产量，灌溉需求...

林业
成分，健康及生产力...

水资源
供水，水质...

沿海地区
侵蚀，洪水，预防成本...

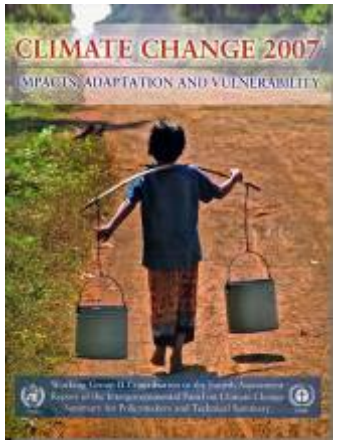
物种和自然领域
生物多样性，生态系统的改变...

人体健康
传染病，人类居住地

Observed impacts of climate change
观测到的气候变化影响

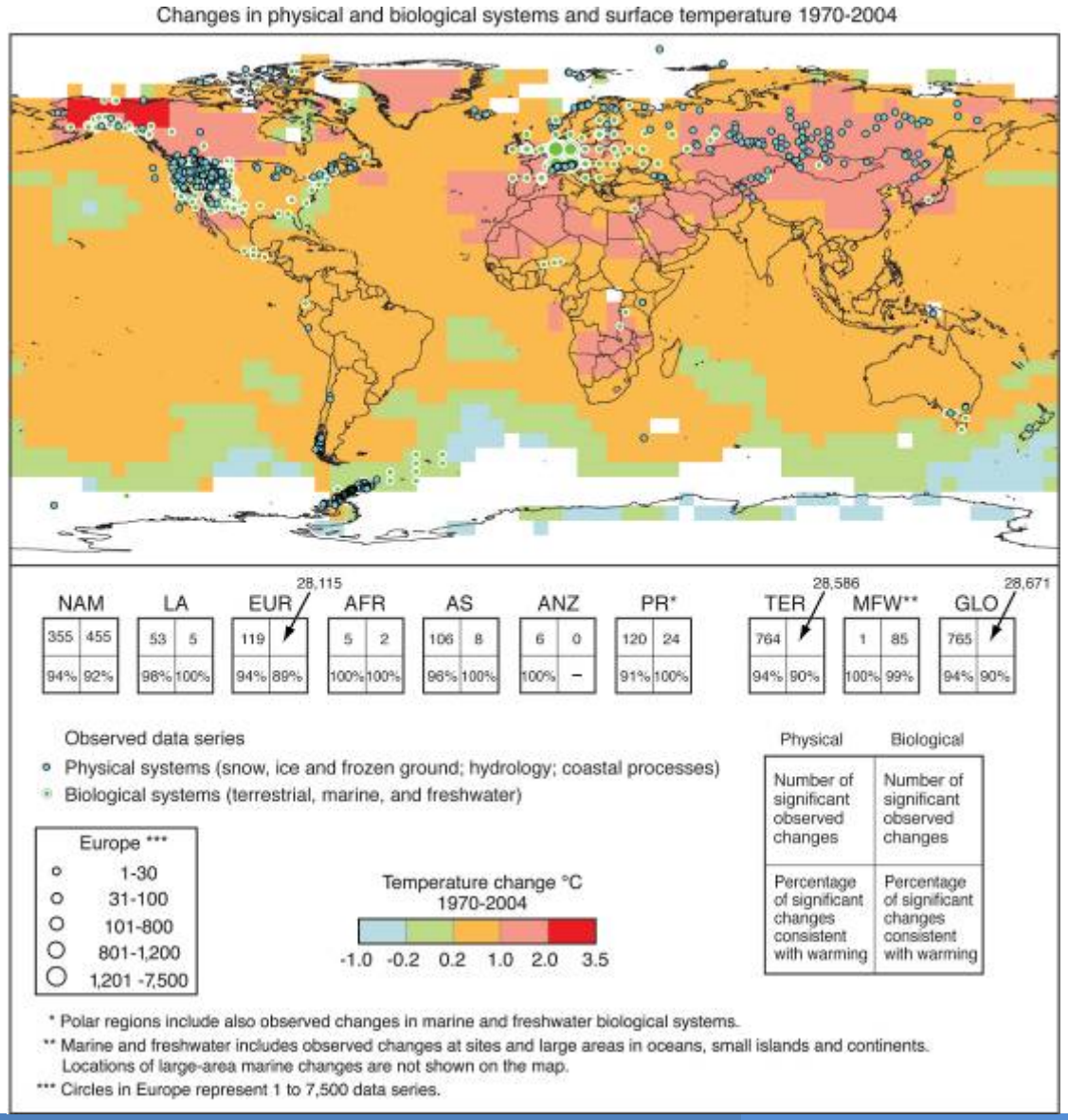
We can now detect the global effects of anthropogenic warming
我们现在可以检测到人为升温的全球效应

- **Second Assessment 1995(SAR): detected the anthropogenic influence on climate change**
- **Third Assessment 2001(TAR): detected the regional effects of anthropogenic warming**
- **Fourth Assessment 2007(AR4): detected the global effects of anthropogenic warming**



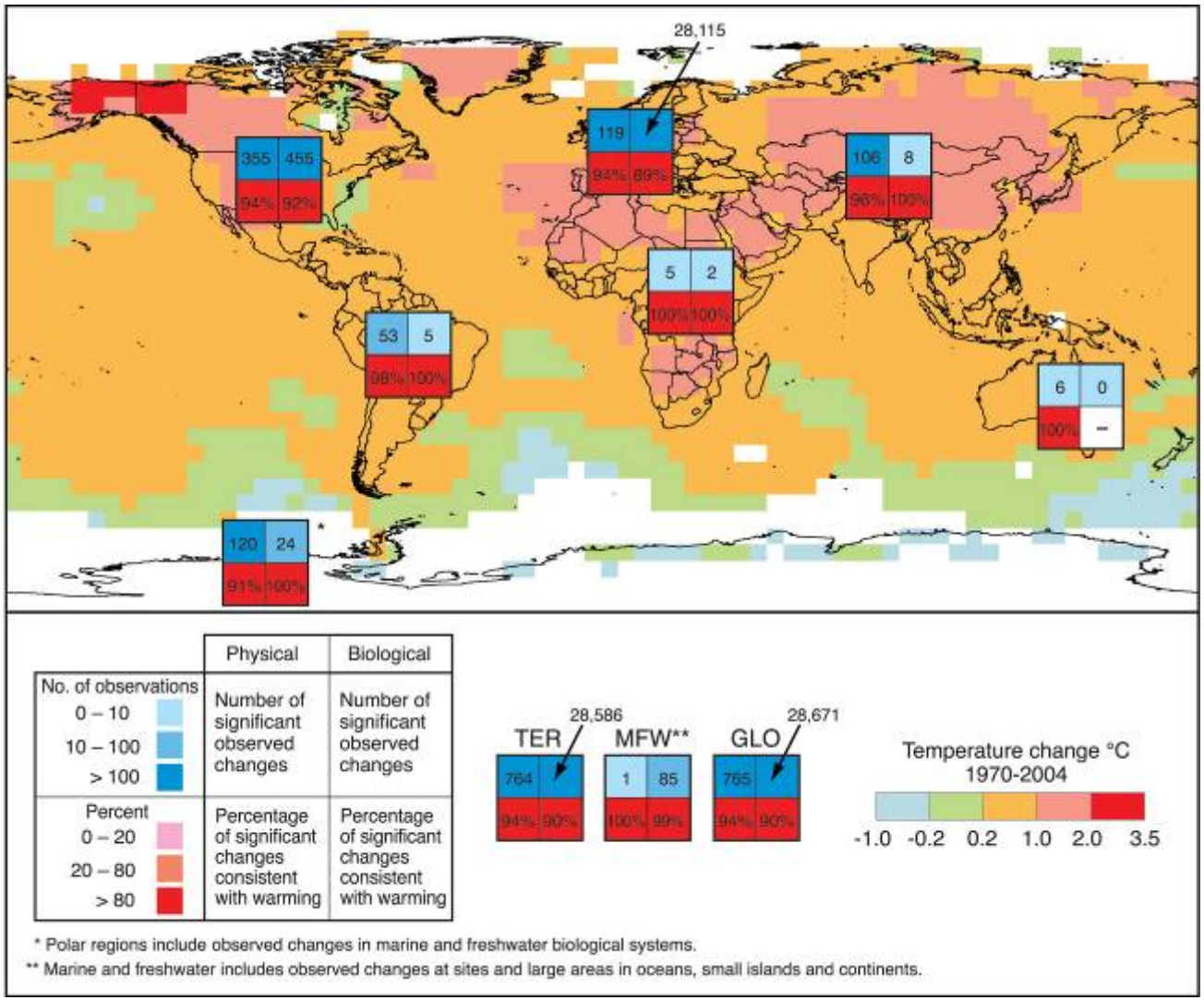
AR4 WG II (2007)

Changes in physical and biological systems and surface temperature 1970-2004



AR4 WG II (2007)

Changes in physical and biological systems and surface temperature 1970-2004



AR4 WG II (2007)

Impacts on Freshwater
对淡水的影响

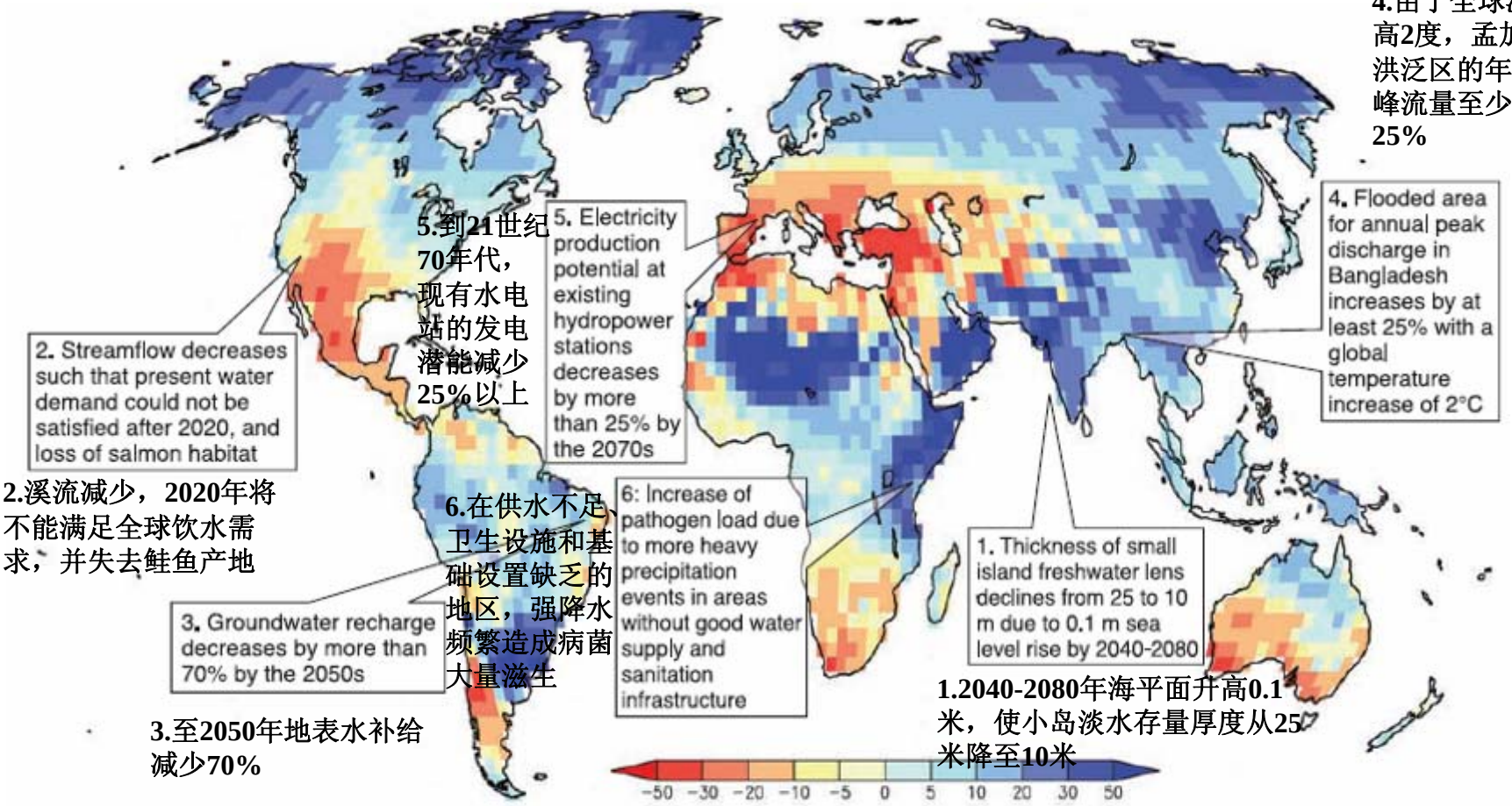


Figure TS.5. *Illustrative map of future climate change impacts on freshwater which are a threat to the sustainable development of the affected regions. Background shows ensemble mean change of annual runoff, in percent, between the present (1981-2000) and 2081-2100 for the SRES A1B emissions scenario; blue denotes increased runoff, red denotes decreased runoff. Underlying map from Nohara et al. (2006) [F3.8].*

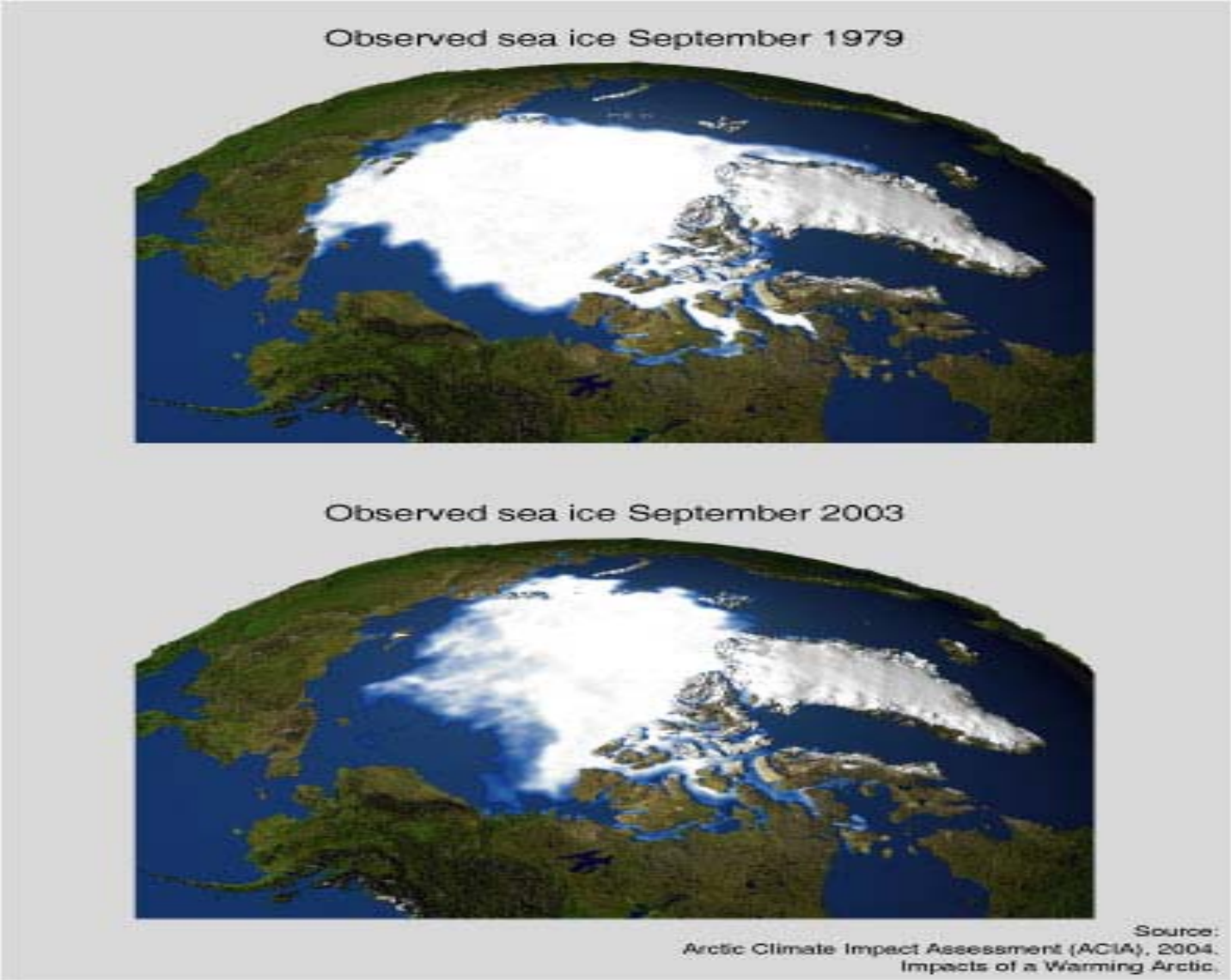
未来气候变化对淡水影响的估测图，将威胁受影响地区的可持续发展。

AR4 WG II (2007)

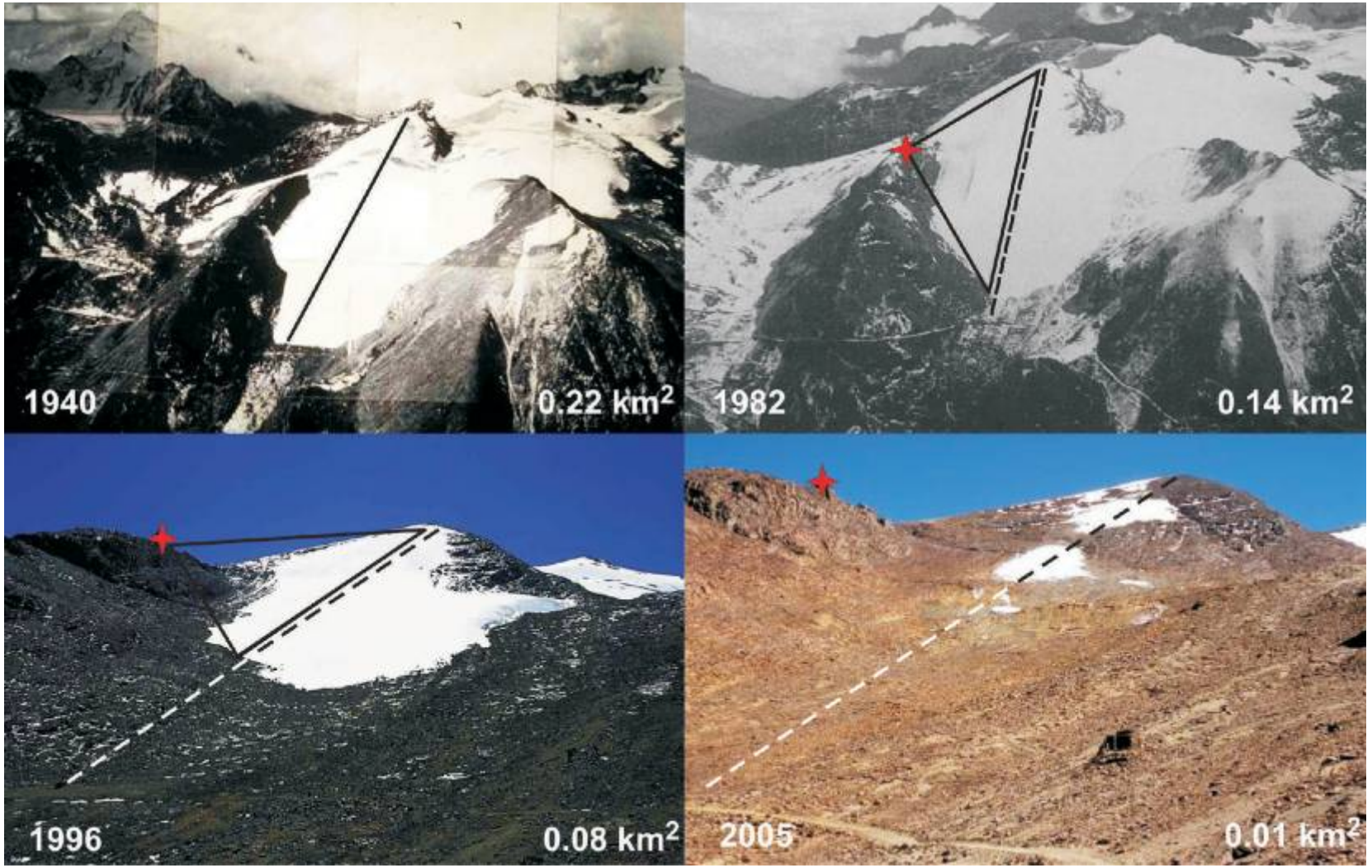
Impacts on Coastal Cities
对沿海城市的影响

AR4 WG II (2007)

Melting Ice Caps
冰盖消融

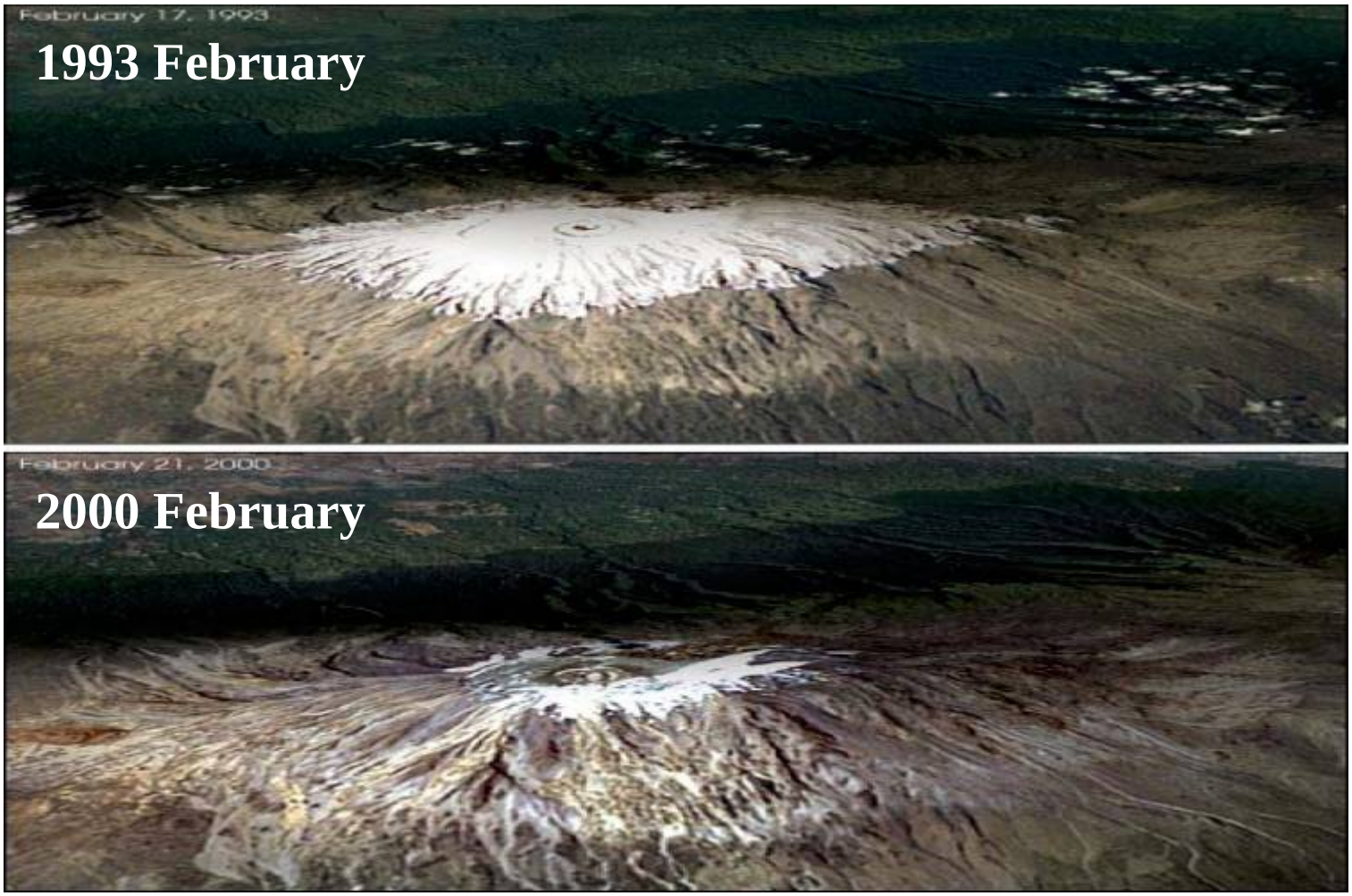


Melting Ice Caps
冰盖消融

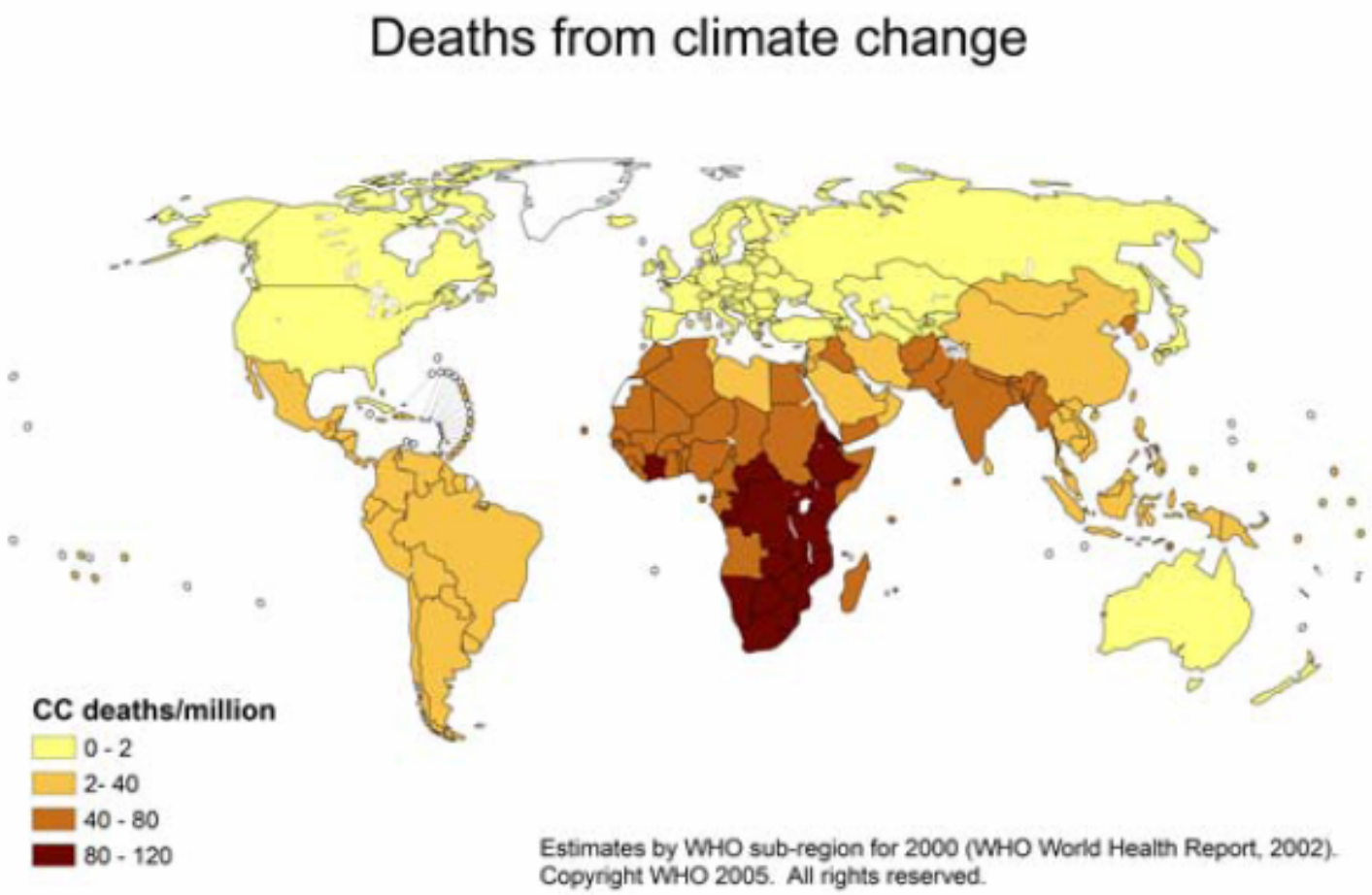


AR4 WG II (2007)

Change on Mt Kilimanjaro and climate interaction
Mt Kilimanjaro 冰川的变化和气候相互作用



climate change impact on health
气候变化对死亡率的影响



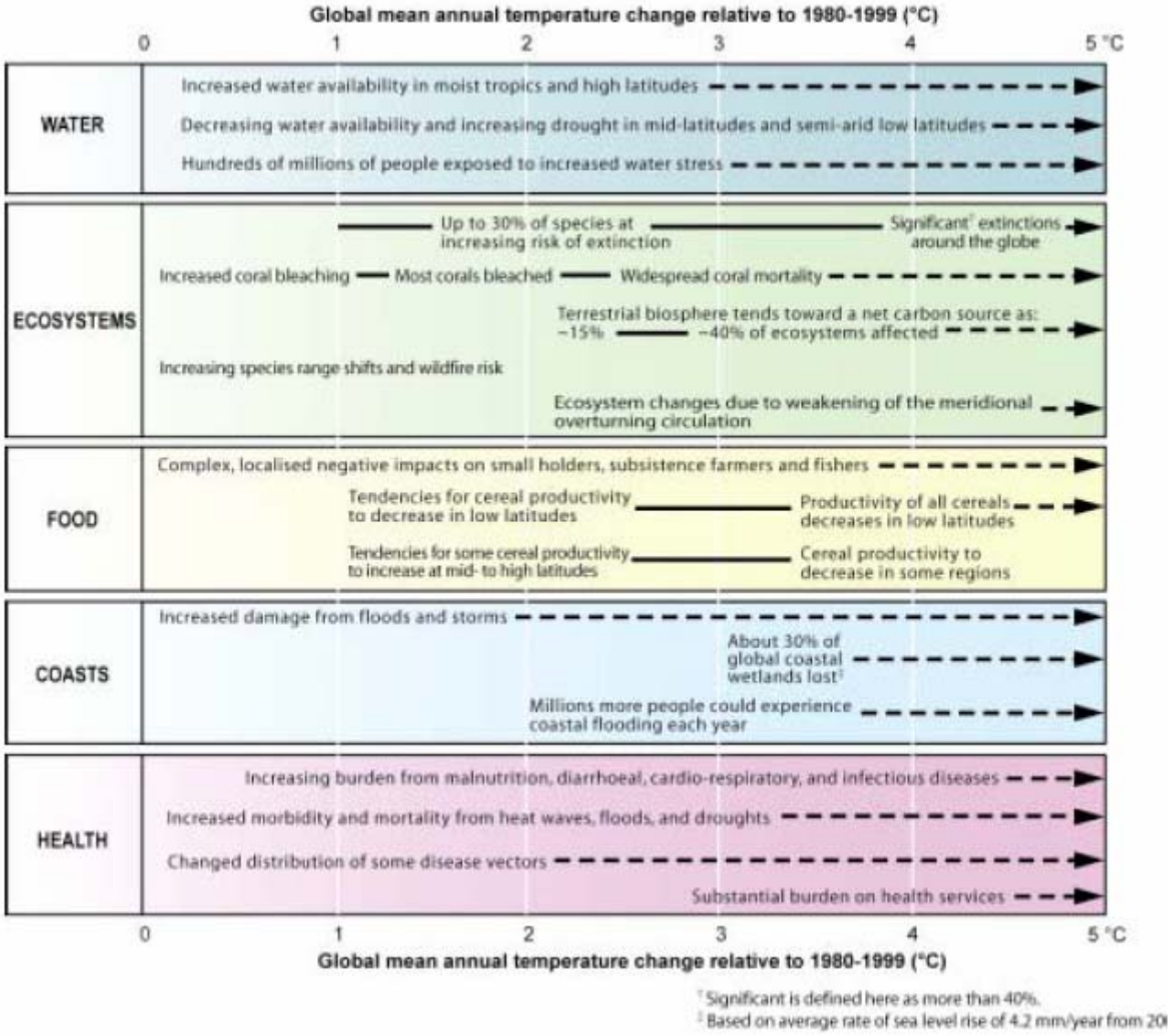
气候变化可能会严重影响一些系统、部分和区域

最易受攻击的部分是:

- 一些生态系统:
  - 陆地：冻土，北方针叶林，山地，地中海类型生态系统
  - 沿海地带：红树林和盐湿地
  - 海洋里：珊瑚礁和海冰生物群系
- 近海低洼区域–受到海平面上升和极端天气事件增多的威胁
- 中纬度地区和干旱的热带的水资源–降水减少和土壤水分蒸发蒸腾损失比例增高.
- 低纬度地区的农业–可用水资源减少
- 低适应能力人群的健康受到威胁

AR4 WG II (2007)

Climate Change Sectors Impacts
气候变化对不同部分的影响



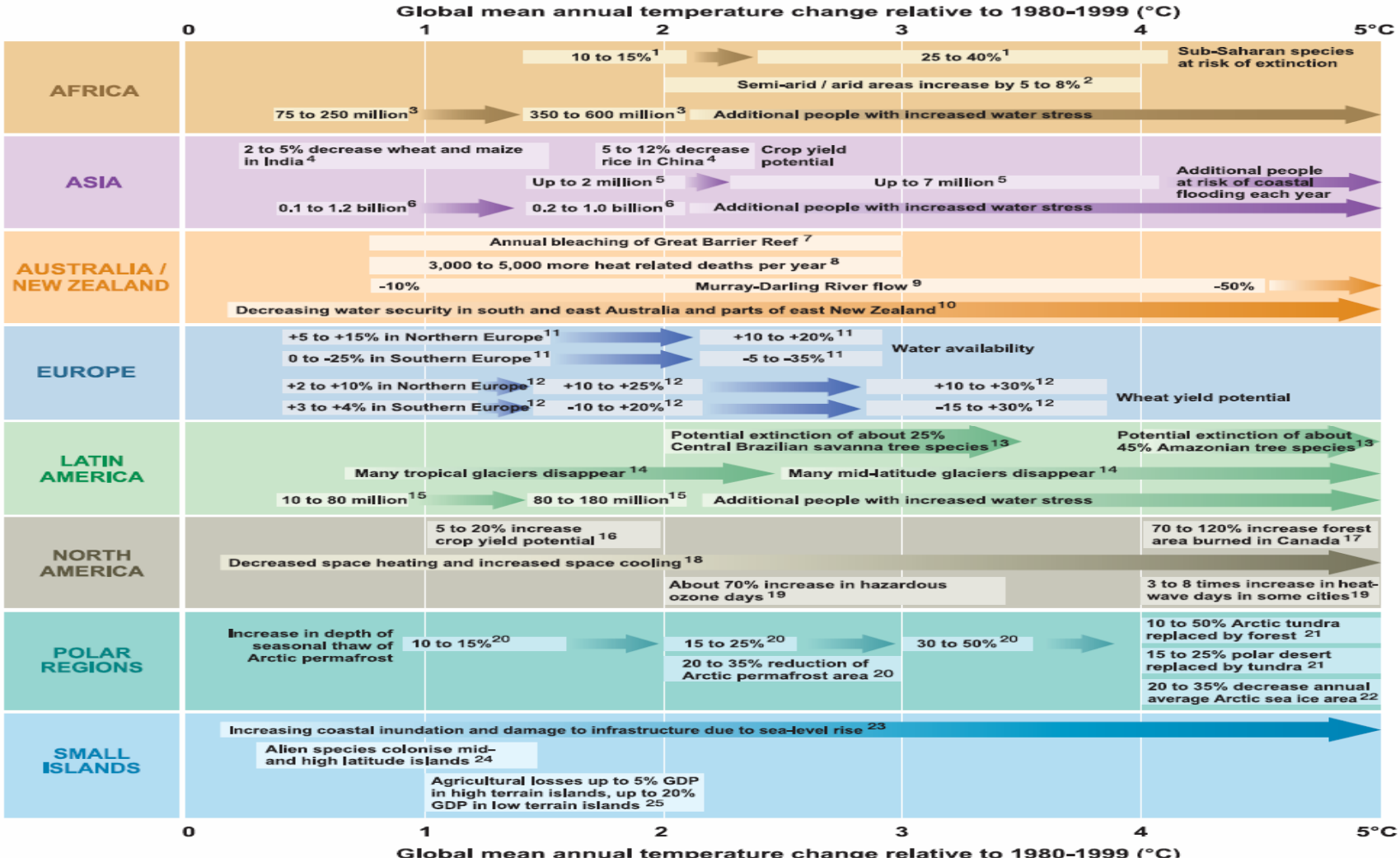
AR4 WG II (2007)

最易受影响的区域是：

- **北极**--预计自然系统温度将增高造成的影响
- **非洲**，特别是撒哈拉南部地区--目前人群适应能力很低
- **小岛屿国**--人口增加、基础设置增多、海平面升高、风暴潮涌增加
- **亚洲大城市群**，如Ganges-Brahmaputra 和珠江三角洲—人口多、海平面升高、风暴潮涌和洪水增加
- 在所有地区，都有特别容易受到攻击的区域、部分和团体，比如穷人、儿童和老人。

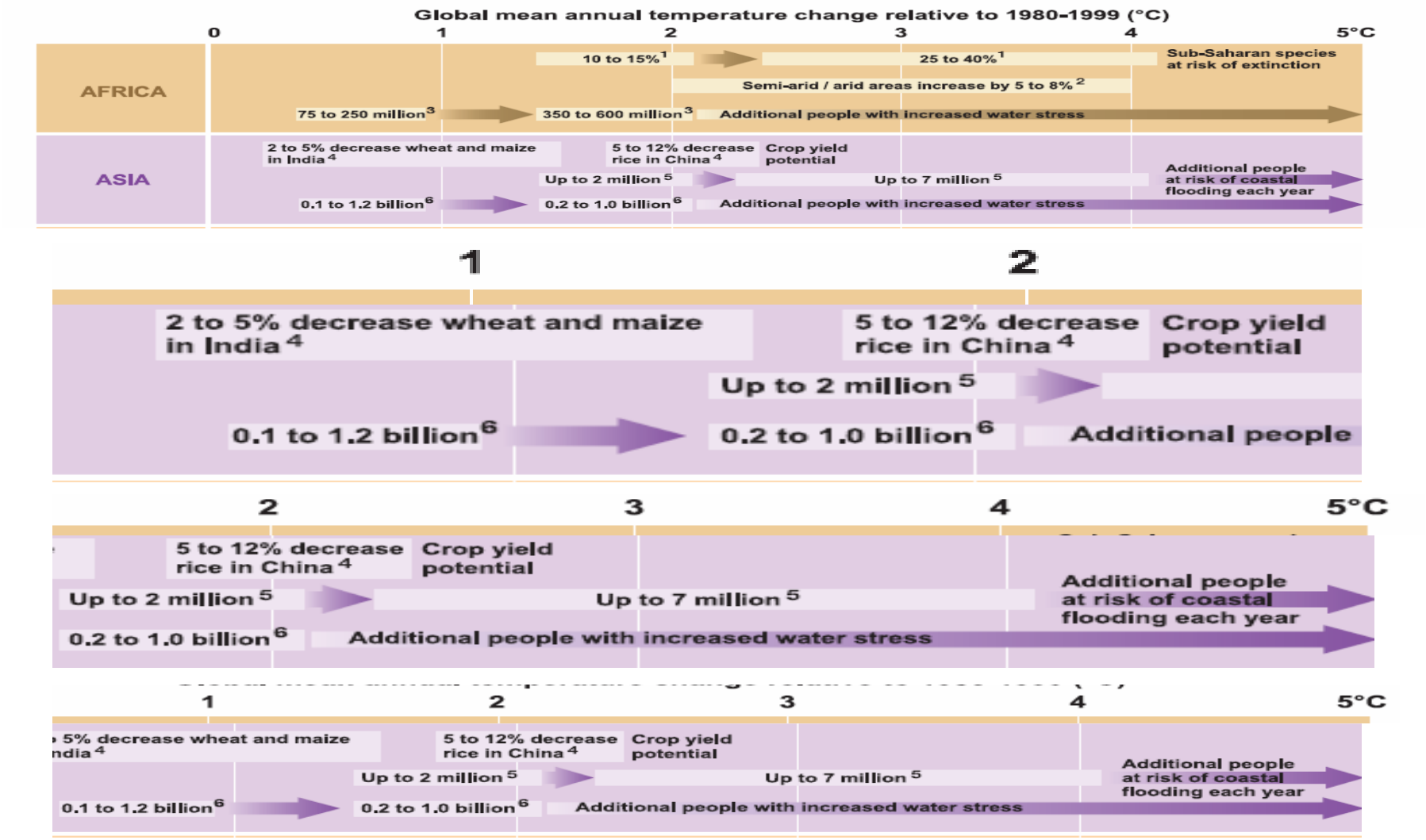
AR4 WG II (2007)

Climate Change Regional Impacts



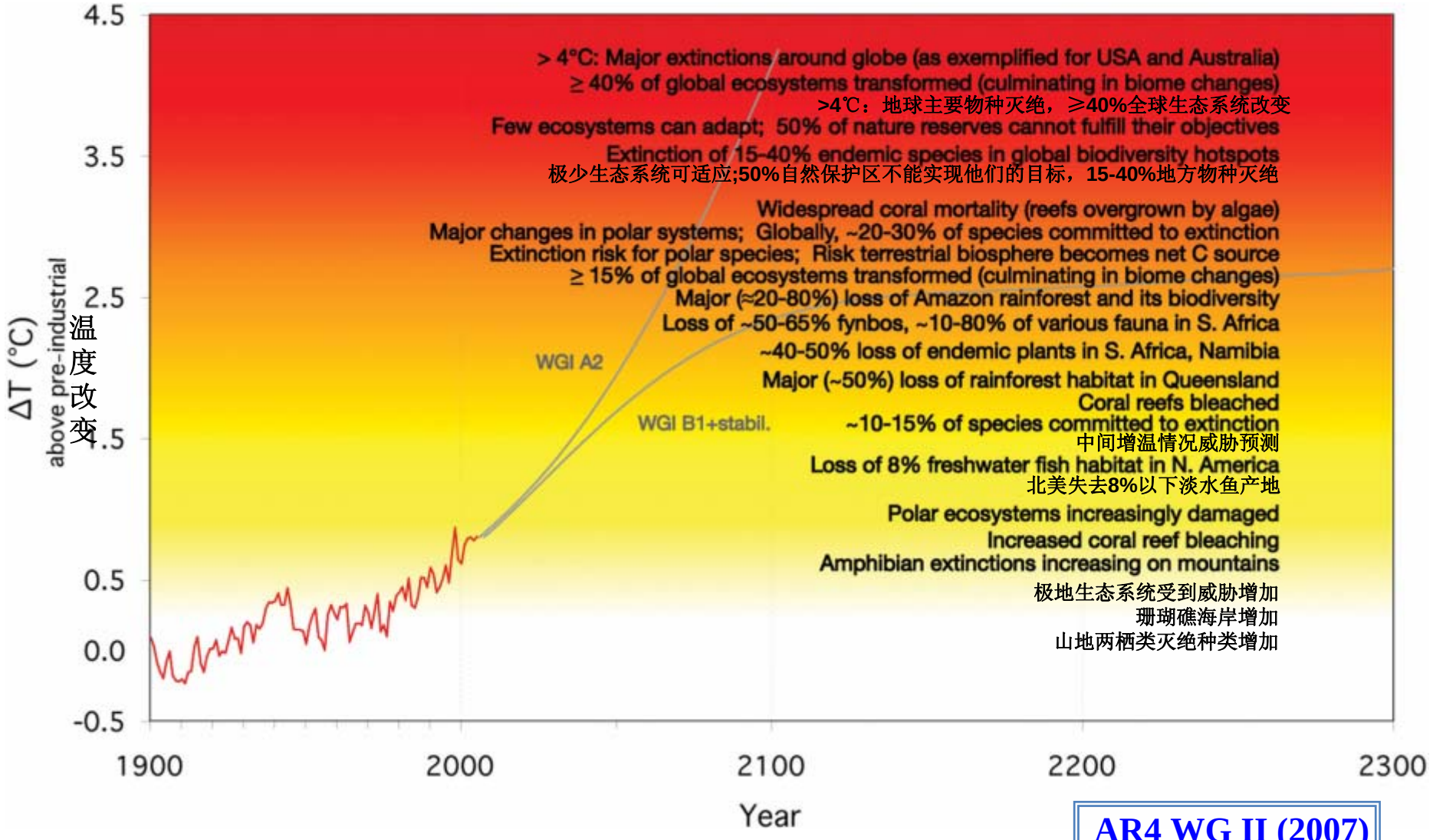
AR4 WG II (2007)

Climate Change Regional Impacts



AR4 WG II (2007)

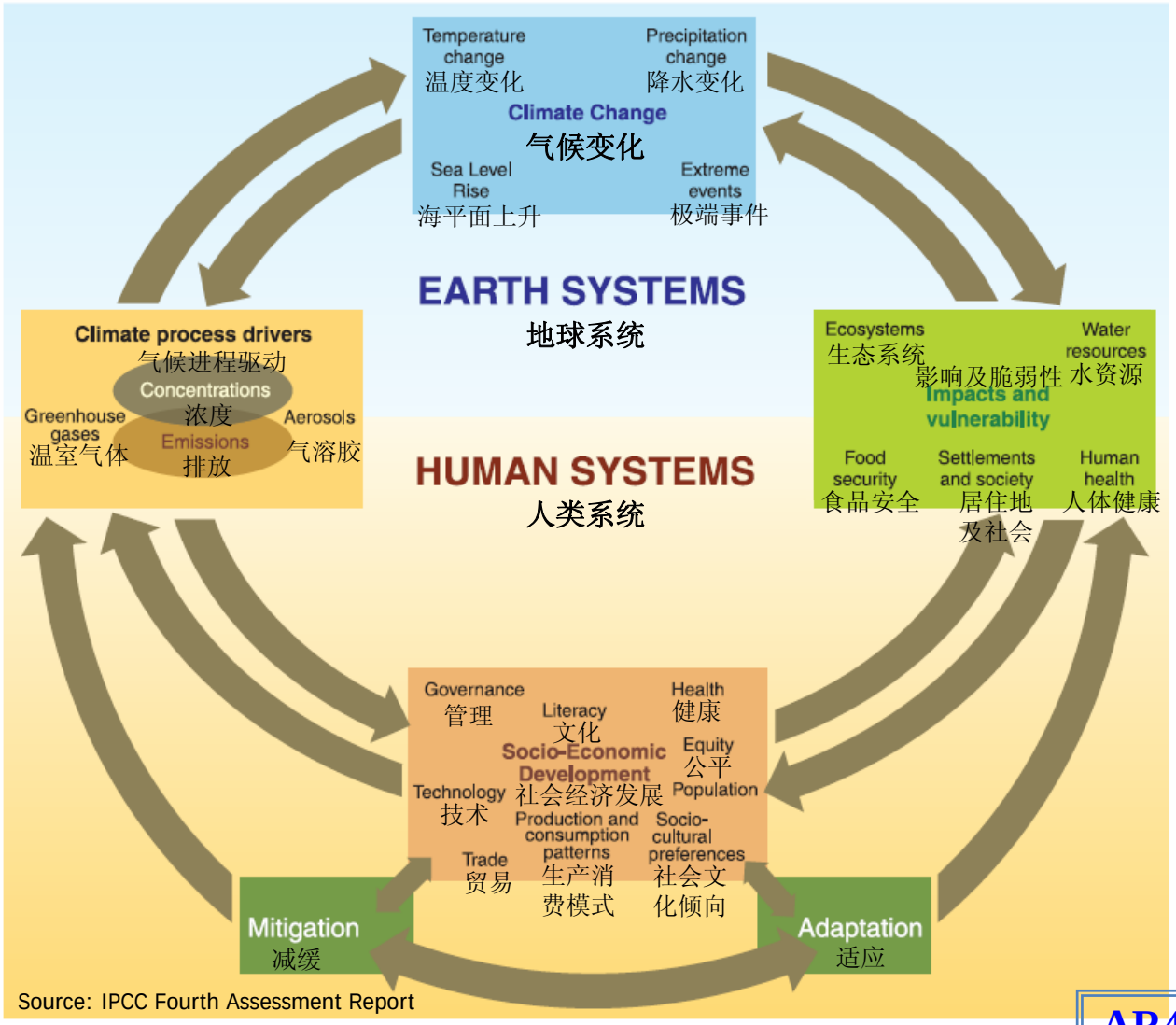
Alarming Scenarios
令人担忧的情景



AR4 WG II (2007)

Addressing Climate Change
应对气候变化

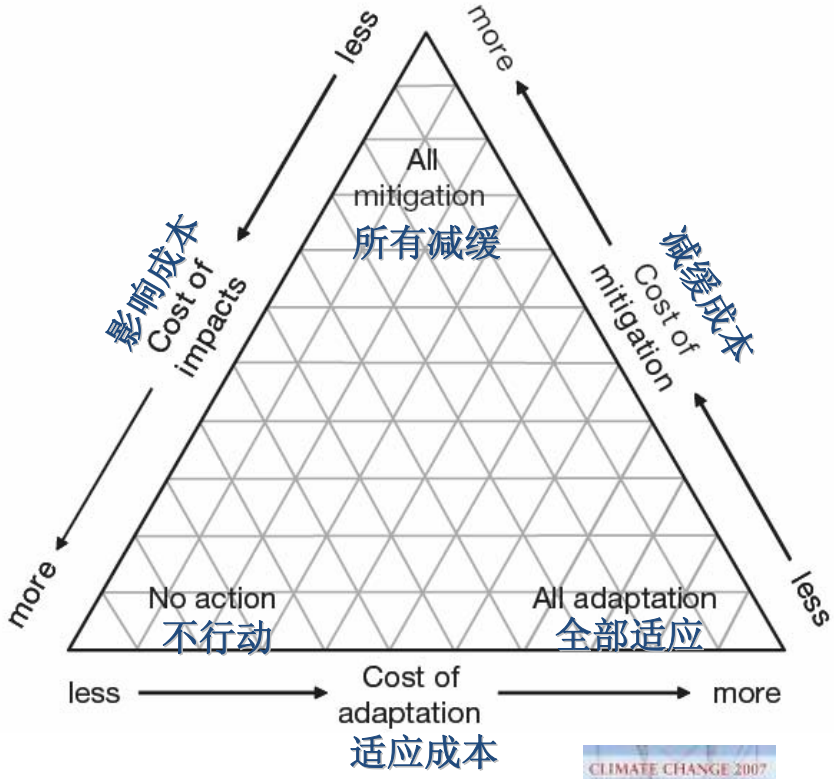
Schematic framework of anthropogenic climate change drivers, impacts and responses

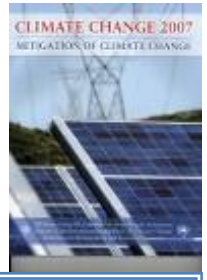


Source: IPCC Fourth Assessment Report

AR4 WG II (2007)

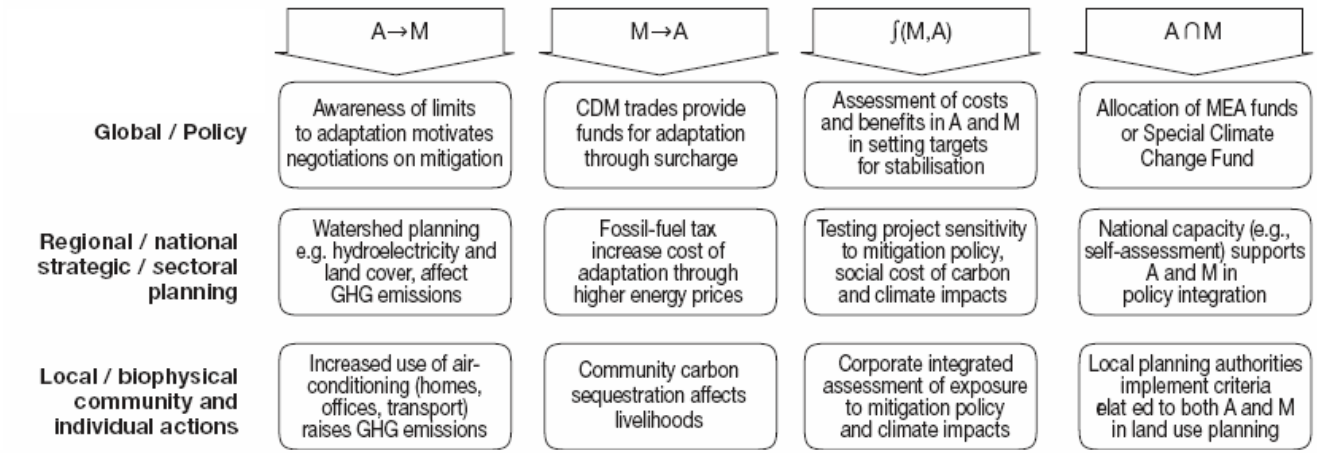
- **减缓：**通过人为干预来减少温室气体的排放源或增强温室气体的汇。
- **适应：**调整自然或人类体系以应对实际发生的或预计将要发生的有害的、削减发展机会的气候刺激及其影响。





AR4 WG III (2007)

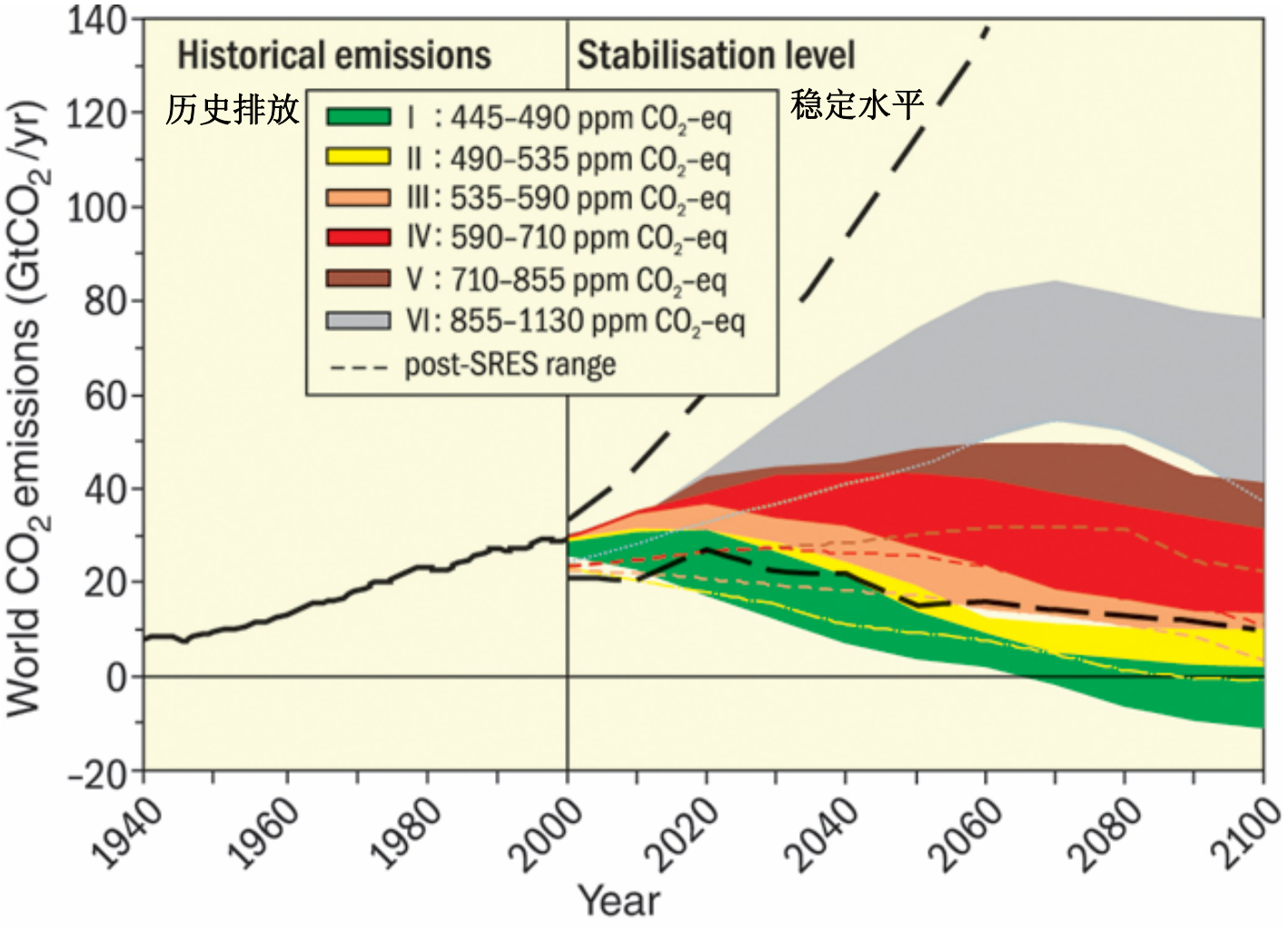
Adaptation and Mitigation Strategies
适应(A)及减缓(M)战略



	A→M	M→A	∫(M,A)	A∩M
全球政策	意识到适应的局限性，激发减轻气候变化的谈判	CDM交易通过追加罚款为适应气候变化提供资金	对A和M进行成本及收益评估，设定稳定目标	MEA基金或特别气候变化基金的分配
区域/国家策略/部门计划	分水岭计划，如，水电和土地覆盖影响温室气体排放	化石燃料税提高了能源价格，增加了适应成本	检测项目对减轻气候变化政策的敏感度，碳及气候影响的社会成本	国家能力(如自我评估)从政策整合方面支持A和M
当地/生物界/工业活动	空调的使用增多(家庭、办公室、交通)使温室气体排放增加	碳截存影响畜牧业	对减轻气候变化政策及气候影响的整合评估合作	地方计划权力机构推行标准，在土地利用计划方面支持A和M

AR4 WG III (2007)

Stabilization 稳定浓度



AR4 WG III (2007)

the macro-economic costs in 2030 for different stabilization levels
不同稳定浓度水平的宏观经济成本（ 2030年）

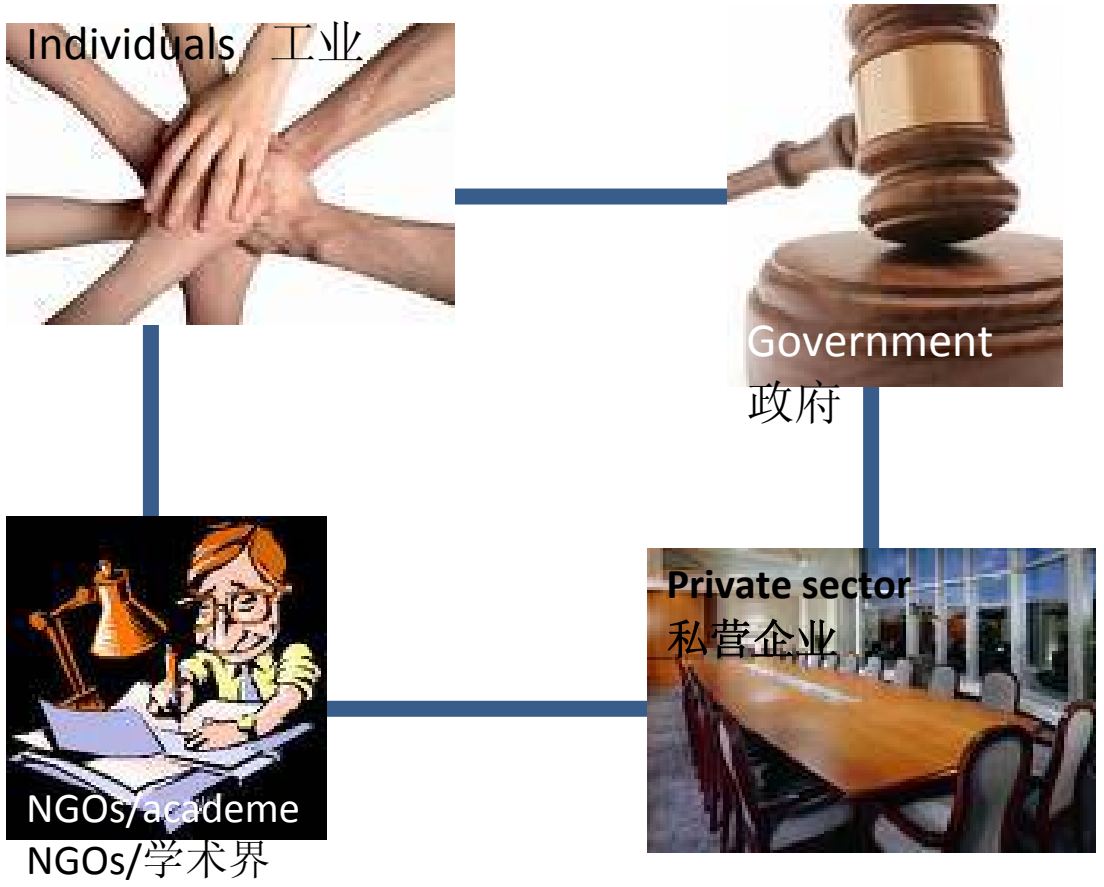
Stabilization levels (ppm CO_2-eq)	Median GDP reduction[1] (%)	Range of GDP reduction [2] (%)	Reduction of average annual GDP growth rates [3] (percentage points)
590-710	0.2	-0.6 – 1.2	< 0.06
535-590	0.6	0.2 – 2.5	<0.1
445-535[4]	Not available	< 3	< 0.12

[1] This is global GDP based market exchange rates.
[2] The median and the 10th and 90th percentile range of the analyzed data are given.
[3] The calculation of the reduction of the annual growth rate is based on the average reduction during the period till 2030 that would result in the indicated GDP decrease in 2030.
[4] The number of studies that report GDP results is relatively small and they generally use low baselines.

These net costs and ranges come for modelling studies that assume efficient markets etc. They do not include net environmental and other co-benefits, which can be substantial.

AR4 WG III (2007)

各利益相关团体的角色


Individuals 工业
Government
政府
NGOs/academe
NGOs/学术界
Private sector
私营企业

减少温室气体排放，我们能做什么？

机动车排放检测及修理

使用更清洁的能源

使用更有效的汽车

骑自行车上班

走路上班

乘坐公共交通

Thanks for your attention!