

Health, Environment Climate Change an international view



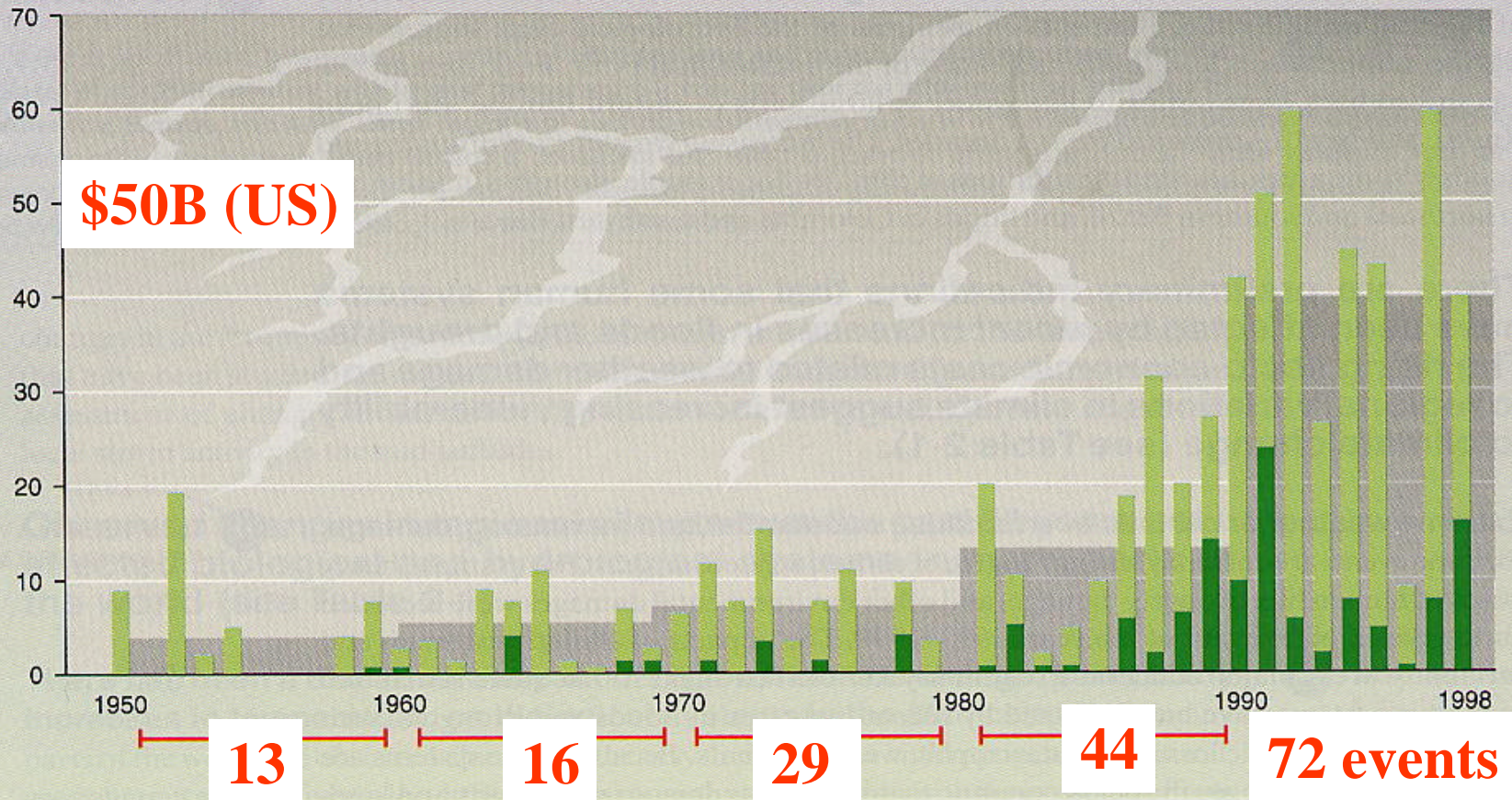
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Global Impacts due to Extreme Events

Annual losses, in thousand million U.S. dollars



■ Total economic losses

— 13 — Number of events

■ Insured losses

■ Decadal average

Munich Re – 2001 review

- 25,000 lives lost through natural catastrophes (10,000 in 2000)**
- 700 events – long term average 650, record (2000) – 850 events**
 - Economic losses - \$36B (US), 2000 - \$30B, 1999 - \$100B**
 - Insured losses - \$11.5B, 2000 - \$7.5B**
- Windstorms and floods – 2/3 of events and 91% of insured losses**

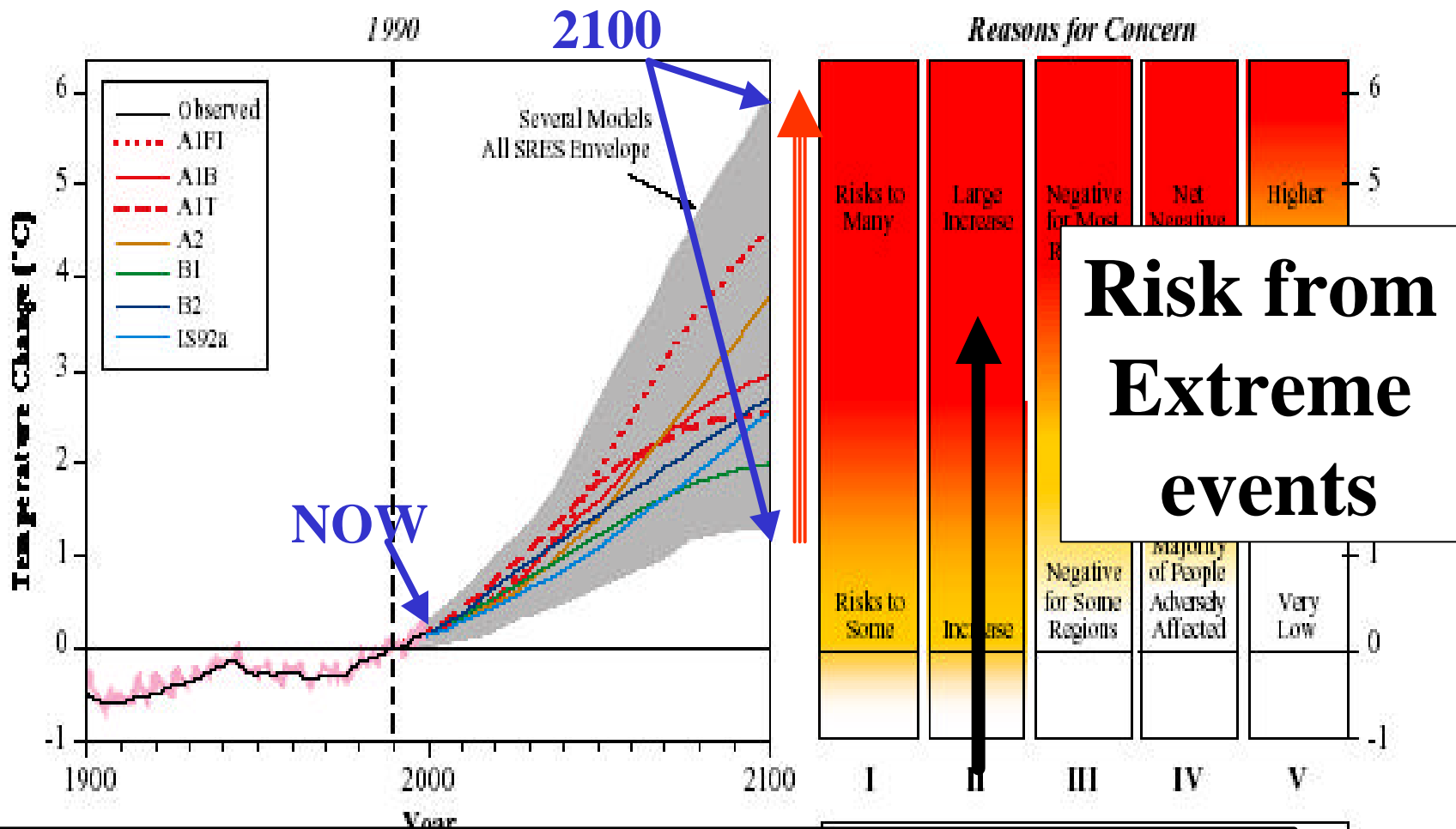
5-fold increase in weather related costs
2-fold increase in costs for other hazards

Dr. Robert Watson – Chair IPCC to CoP6

- *The overwhelming majority of scientific experts, whilst recognizing that scientific uncertainties exist, nonetheless believe that human-induced climate change is inevitable. the frequency and magnitude of these type of events:*
- *heat waves, floods, droughts, fires and extreme weather events leading to significant economic losses and loss of life, are predicted to increase in a warmer world”*

**Dr. Robert Watson – Chair IPCC to CoP6
(continued)**

*“One of the major challenges facing humankind is to provide an equitable standard of living for this and future generations: adequate food, water and energy, safe shelter and a healthy environment (e.g., clean air and water). Unfortunately, **human-induced climate change**, as well as other global environmental issues such as **land degradation, loss of biological diversity and stratospheric ozone depletion,** **threatens our ability to meet these basic human needs.***



**Adaptation to reduce vulnerability
and save lives**

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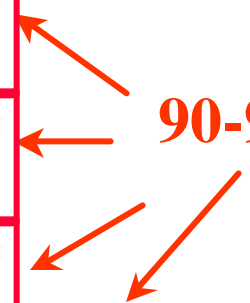
The Delhi (CoP8) Ministerial Declaration on Climate Change and Sustainable Development

- **...promote sustainable development. ...**
- **(e) Adaptation to the adverse effects of climate change is of high priority for all countries. Developing countries are particularly vulnerable, especially the least developed countries and small island developing States. Adaptation requires urgent attention and action on the part of all countries. ...**

The IPCC Assessment

Confidence in observed changes (latter half of the 20th century)	Changes in Phenomenon	Confidence in projected changes (during the 21st century)
<p>•More hot days</p> <p>•Less cold days</p> <p>•More heat stress</p>	Higher maximum temperatures and more hot days over nearly all land areas	Very likely
	Higher minimum temperatures, fewer cold days and frost days over nearly all land areas	Very likely
	Reduced diurnal temperature range over most land areas	Very likely
	Increase of heat index ⁸ over land areas	Very likely, over most areas
Hemisphere mid- to high latitude land areas	More intense precipitation events ^b	Very likely, over many areas
Likely, in a few areas	Increased summer continental drying and associated risk of drought	Likely, over most mid-latitude continental interiors (Lack of consistent projections in other areas)
Not observed in the few analyses available	Increase in tropical cyclone peak wind intensities ^c	Likely, over some areas
Insufficient data for assessment	Increase in tropical cyclone mean and peak precipitation intensities ^c	Likely, over some areas

90-99%



IPCC Assessment

Confidence in observed changes (latter half of the 20th century)	Changes in Phenomenon	Confidence in projected changes (during the 21st century)
Likely	Higher maximum temperatures and more hot days over nearly all land areas	Very likely
Very likely	Higher minimum temperatures, fewer cold days and frost days over nearly all land areas	Very likely
Very likely	Reduced diurnal temperature range over most land areas	Very likely
Likely, over many areas	Increase of heat index ^s over land areas	Very likely, over most areas
	More intense precipitation events ^b	Very likely, over many areas
	Increased summer continental drying and associated risk of drought	Likely, over most mid-latitude continental interiors (Lack of consistent projections in other areas)
	Increase in tropical cyclone peak wind intensities ^c	Likely, over some areas
	Increase in tropical cyclone mean and peak precipitation intensities ^c	Likely, over some areas

Intense Precipitation

More droughts

Intense Tropical cyclones

90-99%

66-90%

On a global scale, a big concern is sea level rise.

Figure 13: Sea Level Rise Commitment
Thermal expansion and land ice melt
after an initial 1% increase in CO₂ for 70 years

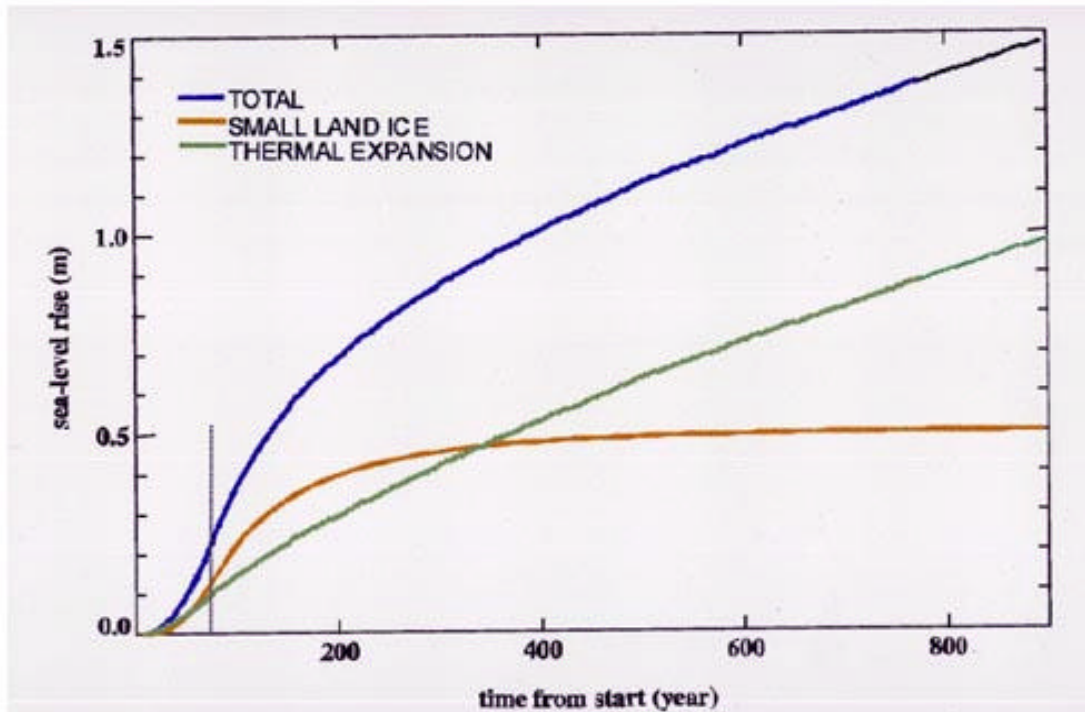
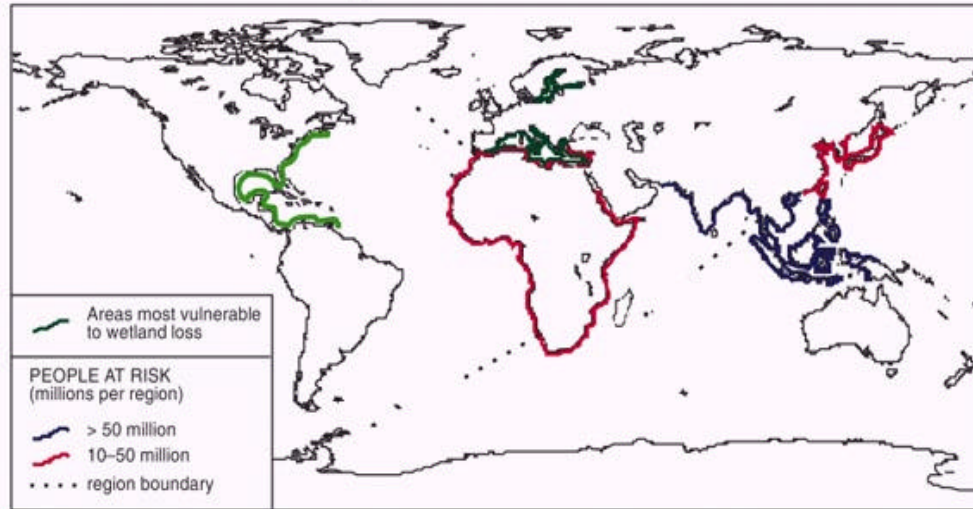


Figure 18: People at Risk from a 44 cm sea-level rise by the 2080s

Assuming 1990s Level of Flood Protection



Source: R. Nicholls, Middlesex University in the U.K. Meteorological Office. 1997. *Climate Change and Its Impacts: A Global Perspective*.

“It (climate change) could even threaten survival in small island States and in low-lying coastal, arid and semi-arid areas”

Ministerial Declaration – Second World Climate Conference

Impacts on Human Health

- Impacts of short-term weather events on human health - thermal stress, air pollution, storms and floods, and on infectious diseases.
- Cyclones, flooding - poor, densely-settled populations.
 - Reduction in crop yields and food production
 - hunger and malnutrition
- Range of social, institutional, technological, and behavioral adaptation options to lessen that impact.
- Overall, the adverse health impacts of climate change will be greatest in vulnerable lower income populations, predominantly within tropical/subtropical countries.

World Summit on Sustainable Development – WSSD

By 2010 ...

- **achieving improved health literacy on a global basis**

By 2015,

- **halve the proportion of people who live on less than \$1 per day**
 - **Establish a world solidarity fund to eradicate poverty**
- **halve the proportion of people who are unable to reach or cannot afford safe drinking water**
- **halve the proportion of the world's people who suffer from hunger ...**
- **reduce mortality rates for infants and children under five by two thirds ...**

World Summit on Sustainable Development – WSSD

Implementation

- **Meet all the commitments and obligations under the UNFCCC**
- **Strengthen the role of the International Strategy for Disaster Reduction**
- **Promote and improve science-based decision-making and reaffirm the precautionary principle ... (Rio)**
- **Urge the developed countries ... target of 0.7 per cent of GNP as ODA to developing countries ...**

Climate change is a long-term issue – impacts on human health globally

Questions of intergenerational and international equity





Institute for Catastrophic
Loss Reduction
Institut de Prévention des
Sinistres Catastrophiques

**Climate change is a long-term issue –
Impacts on human health globally
Questions of intergenerational and international equity**

NOTE ::

**2003 Open Meeting
Human Dimensions of Global
Environmental Change Research
October 16-18, 2003
Montreal, Canada.**

Fin - The End