



# **New Challenges to Reducing Disaster Risk in the Context of Climate Change**

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Workshop 22.**

**Disaster Risk Management in an  
Age of Climate Change.**

**The National Academies.  
Washington D.C.**

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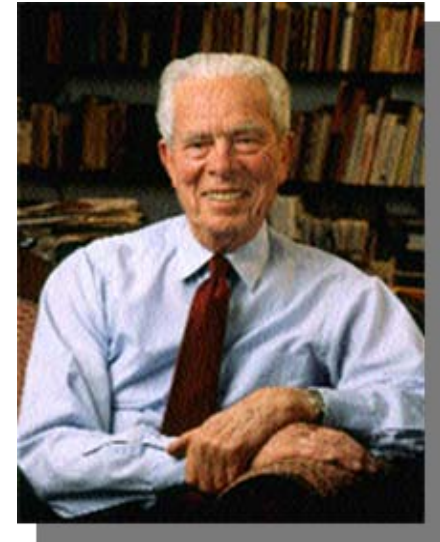
# Outline

- Tribute to Gilbert White.
- Adaptation and Mitigation
- The Adaptation Imperative.
- The Adaptation Deficit. (convergence)
- The Character of Climate Risks.
- Local – Global.
- The Use of Knowledge.
- ICSU – IRDR.
- Suggested Responses.
- Integration

# Gilbert White 1911-2006

- The Boulder Flood Elevation Marker.

*“Floods are acts of God, but flood losses are largely acts of man”*



- Are floods now themselves becoming acts of man?
- How is adjusting (adapting, mitigating) to acts of man different from adjusting to acts of God? A shift in responsibility.
- Robert Hinshaw. Living with Nature's Extremes: The Life of Gilbert Fowler White. Johnson Books. Boulder, 2006

# Flood Marker



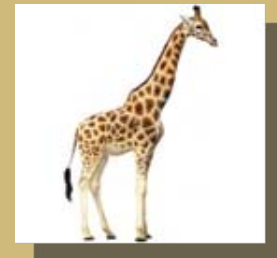
# Mitigation and Adaptation

## Mitigation

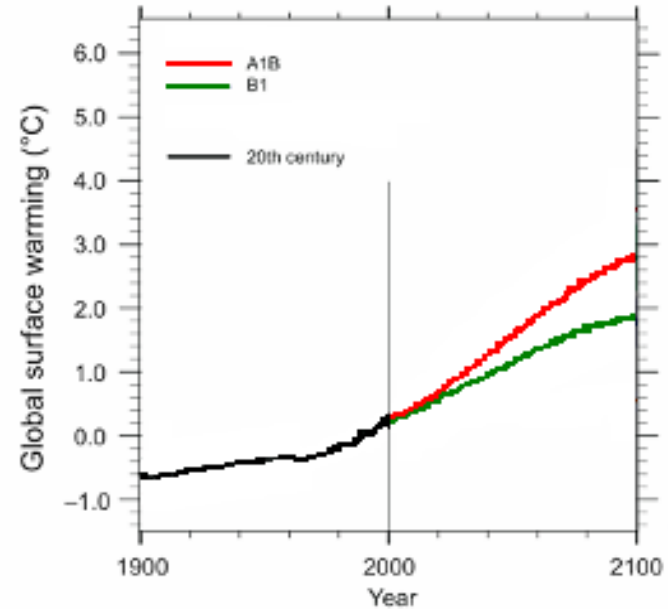
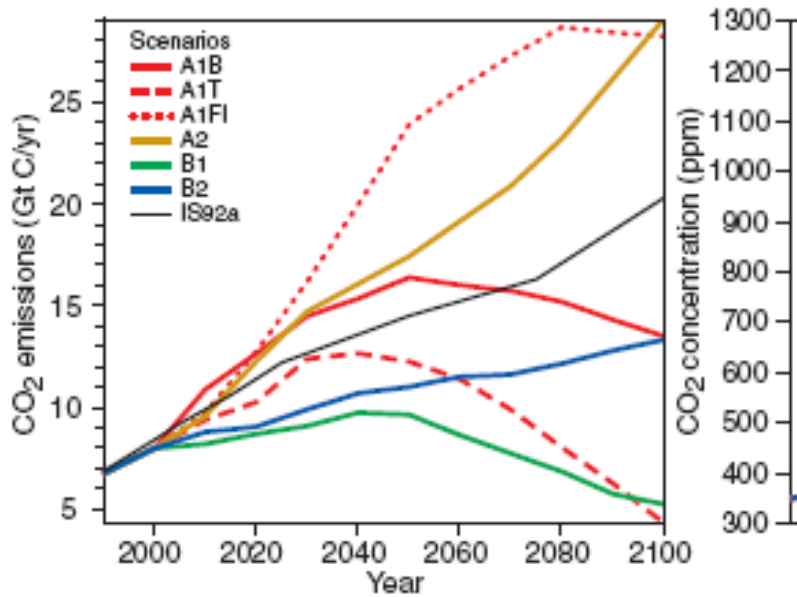
- Clearly Defined
- Clear Objective
- Standard Measure (*emissions and concentration*)
- Baseline 1990 Emissions
- Target +2°C
- Global Environmental Benefits
- Incremental Costs
- Calculated
- Clear Financial Mechanism
- Legal Instrument (Kyoto)

## Adaptation = mitigation

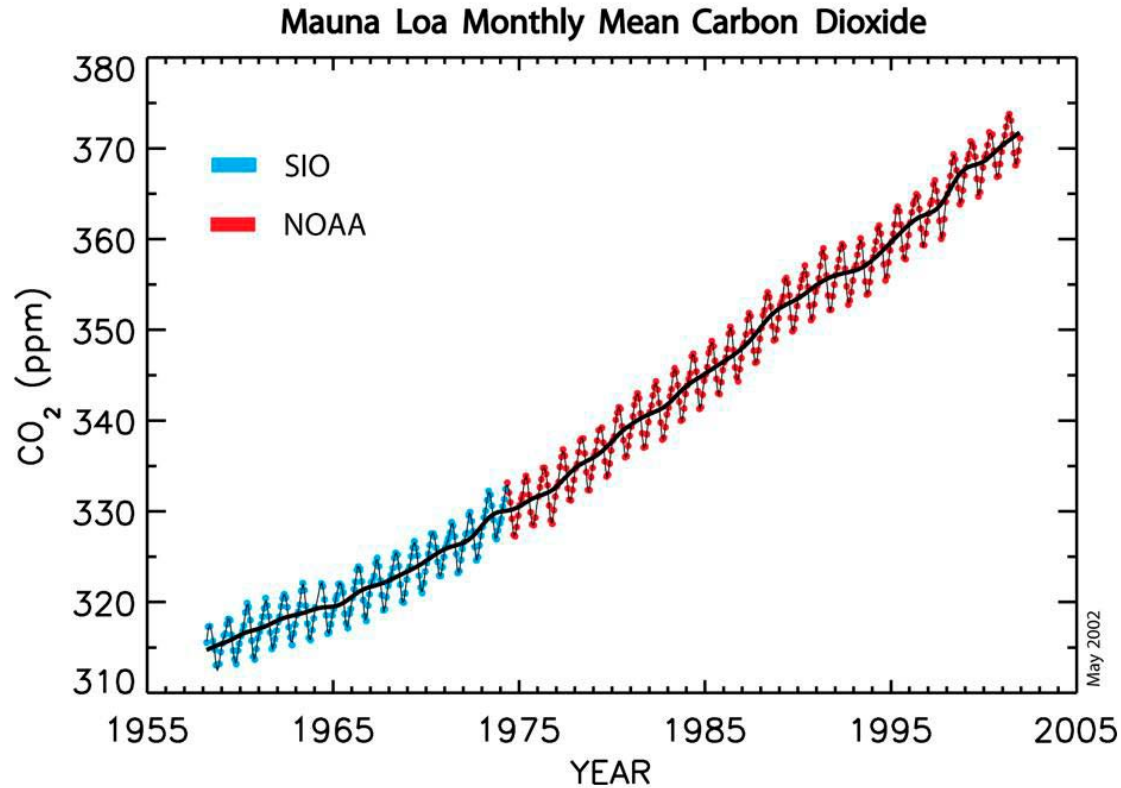
- Vague Definition
- No Objective
- No Standard Measure
- No Baseline
- No Target
- No G.E.B
- Not calculatable
- Multiple, inconsistent and insufficient funding
- No Legal Instrument (yet)



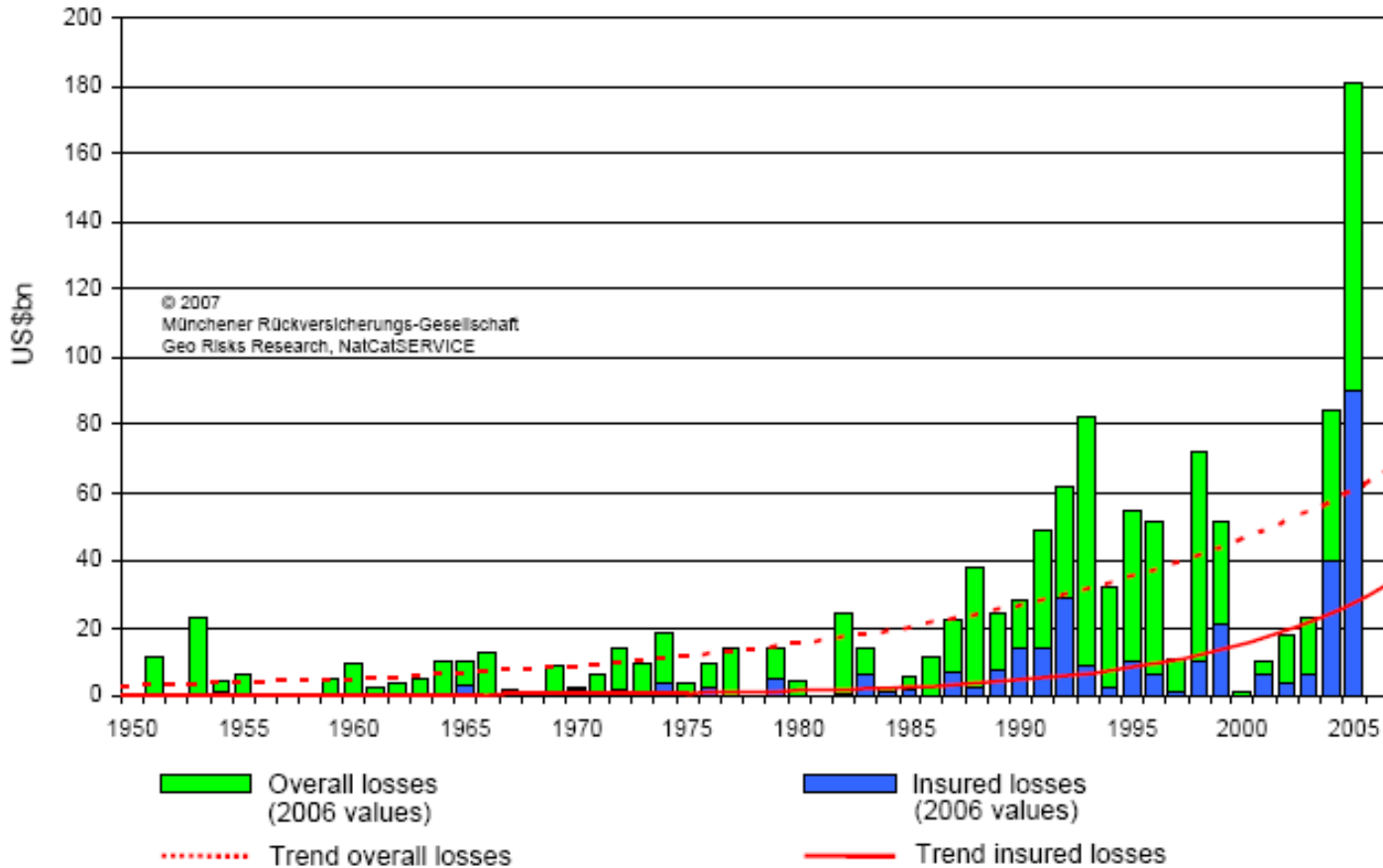
# The Adaptation Imperative



# The Adaptation Imperative

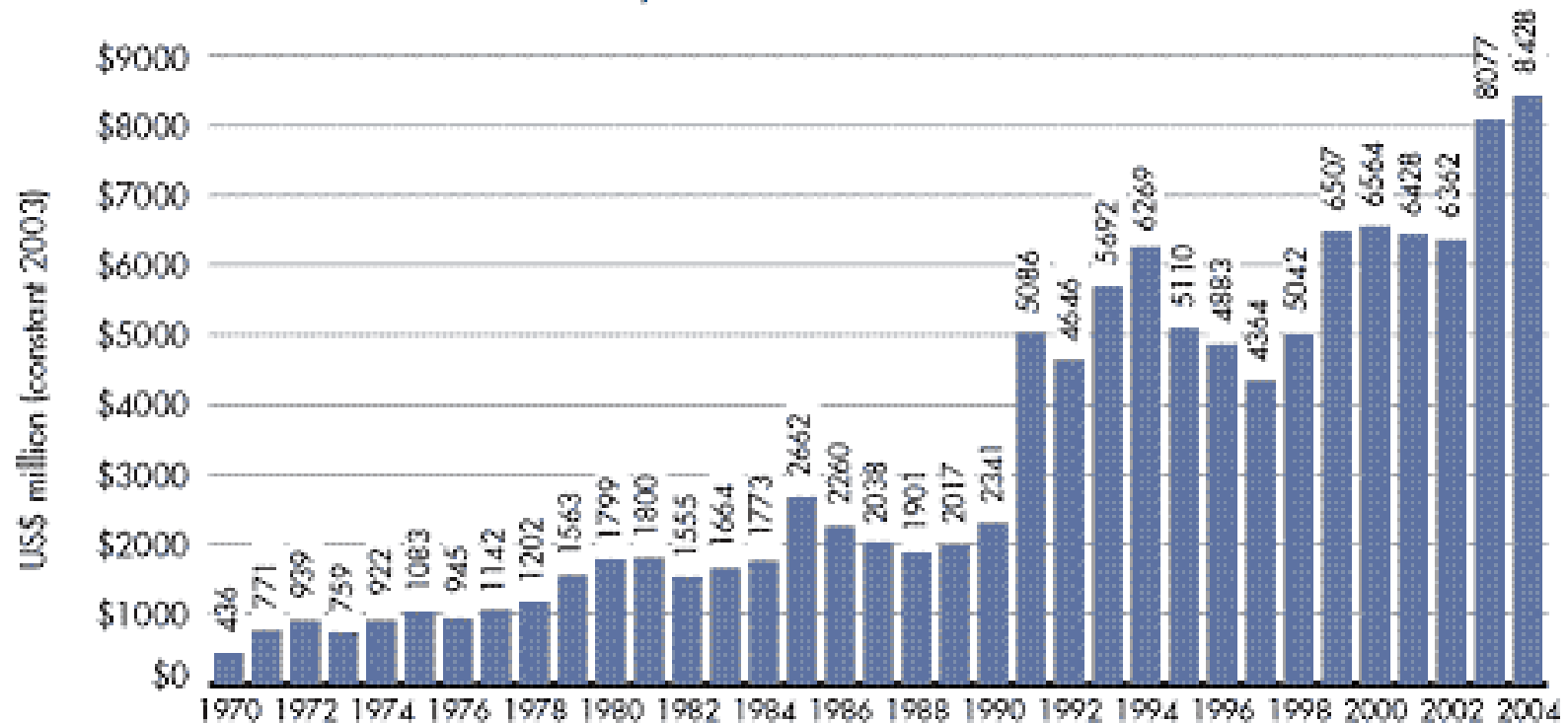


# The Adaptation Deficit



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Total humanitarian assistance, 1970–2004



Source: OECD DAC, Table 1.

# Climate Risks

- There is no “normal” climate. Uncertainty.
- Magnitude, frequency, intensity, duration.....
- No return to status quo, based on the notion of a “stationary” climate.....
- Not periodic drought but desiccation.
- Disasters are not single isolated events, they are continually being created. Acute vs. chronic? All disasters are slow onset events.
- Spatially connected, due to climate change and also socio-economic globalization.

# Local - Global

- Conventional view: Disasters local, climate global.
- Emerging trend: Disasters global, climate local.
- Needed view: Both local and global. Convergence, integration, interconnectedness.
- Consequent actions? Policies?



# The Use of Knowledge

- Why do losses increase despite much more scientific knowledge?
- Still not enough knowledge? Not well used? Not well distributed or available? Used effectively but overwhelmed by global trends?
- Other factors? Short-term planning? Social and political inequality? Powerlessness? Lack of responsibility? Diffuse responsibility? The faults lie with everybody and hence nobody

# ICSU – IRDR

*International Research on Disaster Risk – Planning Group*

- **Gordon McBean** Canada, (Chair)
- **Tom Beer**. Australia. CSIRO.
- **Ian Burton**. Canada. Geography.
- **Chien-Jen Chen**. Taiwan. Epidemiology.
- **Pauline Dube**. Botswana Env. Sci.
- **Richard Eiser**, UK. Psychology.
- **Filipe Domingos Freires Lucio**. Mozambique
- **Harsh Gupta**. India. Geophysics.
- **William Hooke**. USA. Meteorology.
- **Richard Keller**, USA. Medical sciences.
- **Allan Lavell**, Costa Rica. Social sciences.
- **Daniel Murdiyarso**. Indonesia. Forestry.
- **Victor Osipov**. Russia. Geosciences

# IRDR

1. Characterization of hazards, vulnerability and risk.
2. Understanding decision-making in complex and changing risk contexts.
3. Reducing risk and curbing losses through knowledge-based actions.
4. Capacity building
5. Mapping capacity, continuity.
6. Case studies – forensic analysis (NTSB)

# Suggestion Responses

- Reframe disasters as a global responsibility.
- Climate is “a common but differentiated responsibility”
- Disasters are a topic of “common concern”. (Hyogo)
- More closely integrate disaster mitigation and climate change adaptation.

# More Responses

- Mainstream climate and disaster risks into all development investments, policies and measures.
- Develop a national strategy/plan for adaptation/mitigation.
- Create the necessary institutional arrangements, mechanisms.
- Require mandatory transparent reporting.

# and More

- Assess performance. Performance measures for adaptation.
- Secure guaranteed mandatory financial support.
- Provide budgetary support where feasible.
- Explore and adopt incentives and penalties.
- Insurance as a social policy instrument for adaptation/disaster risk reduction.



# Integration

- Towards Convergence of C.C. adaptation and disaster risk reduction.
- Common platforms?
- Geophysical hazards?
- Slow onset climate change? Sea level rise?
- Disasters and adaptation in the Copenhagen Agreement December 2009.
- Progress outside the UNFCCC?

**Thank You!**

