

ADAPTATION OF FORESTS AND PEOPLE TO CLIMATE CHANGE

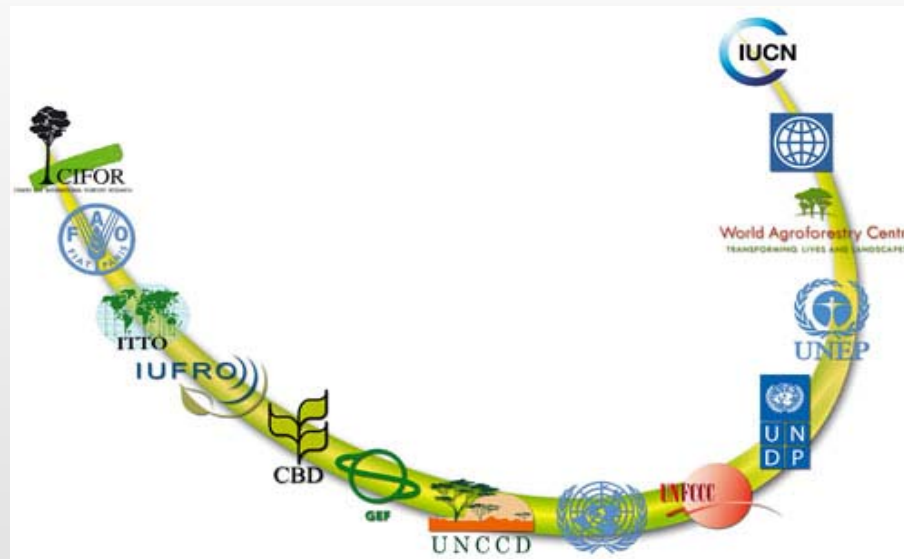
A global assessment by an Expert Panel

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BACKGROUND: MECHANISMS NEEDED FOR SCIENCE-POLICY INTERFACE

- “We can no longer afford for scientists to work in isolation ... We need to maximize every opportunity to bring together scientists and policy makers so that ... policy decisions are informed by science” (Dennis Garrity & Achim Steiner – Welcome to WCA 2009)
- CPF (Collaborative Partnership on Forests) launched in 2007 an initiative on Global Forest Expert Panels (GFEP)

CPF MEMBERS



GLOBAL FOREST EXPERT PANELS (GFEP)

- **Task:** provide forest-related intergovernmental processes (UNFF, UNFCCC, CBD) with science-based assessments of existing information about key issues of global concern
- **Coordinated by IUFRO** (International Union of Forest Research Organizations)
- **Expert Panel on Adaptation of Forests to Climate Change** established as first thematic panel
- **Other thematic Panels** to follow in the future

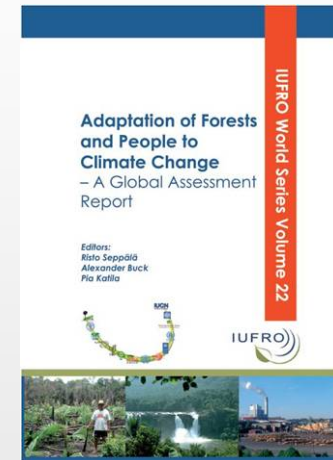
EXPERT PANEL ON ADAPTATION OF FORESTS TO CLIMATE CHANGE

- Task: assessment of climate change impacts on forests, implications for human wellbeing, and options for adaptation; no new research
- Almost 100 experts with broad range of scientific backgrounds; several IPCC scientists



PRODUCTS

- Peer reviewed scientific report “Adaptation of Forests and People to Climate Change – A Global Assessment”
- Policy brief “Making Forests Fit for Climate Change” (available in all official UN languages)





MAIN FINDINGS

OBSERVED ENVIRONMENTAL IMPACTS

- Climate change has already affected forest ecosystems and will have **increasing effects** on them in the future



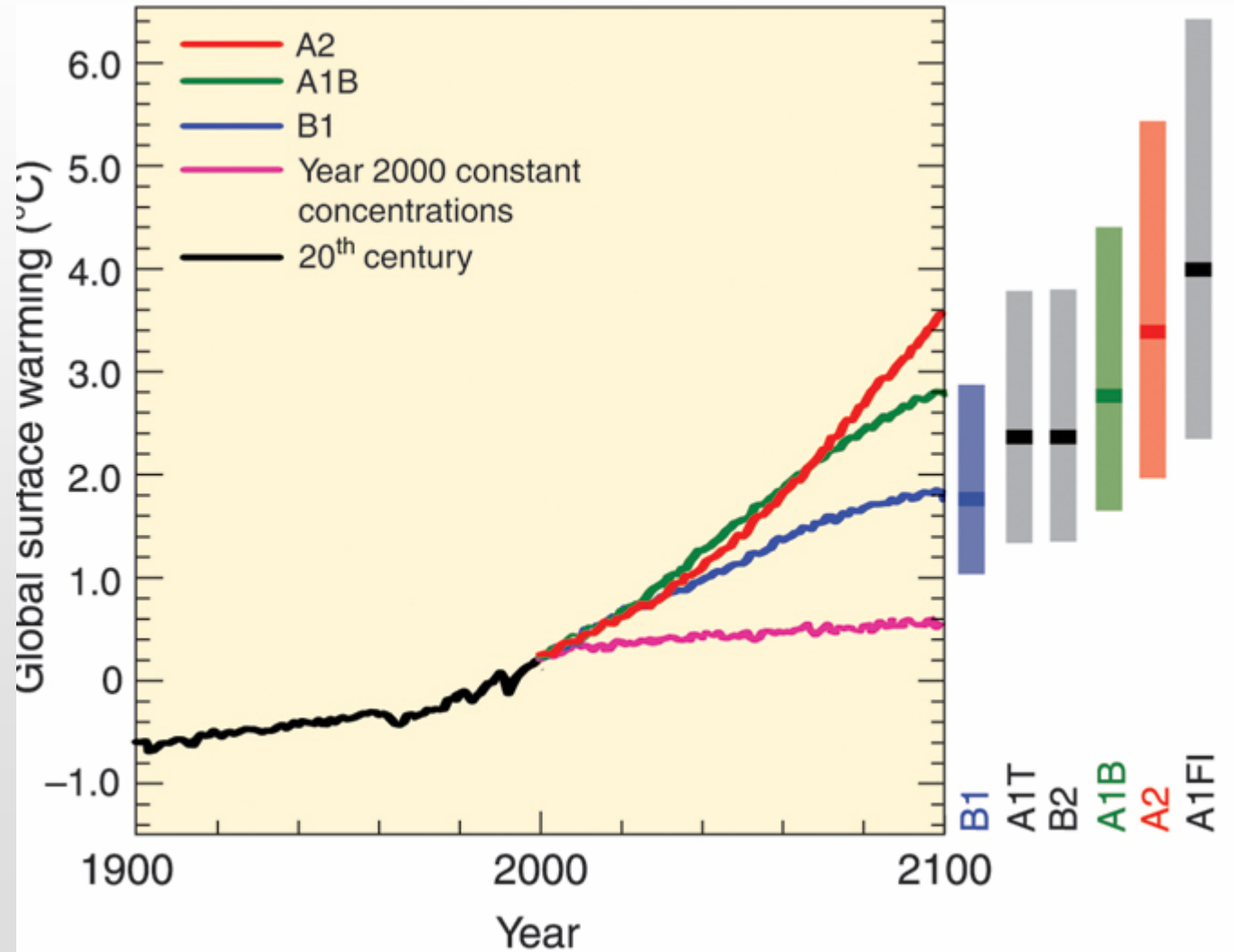
BUT

Climate change is only one factor affecting forests and the people depending on them. So far, the effects of other factors, such as human population growth and epidemic diseases, have been more visible than the impacts of climate change.

FOUR SCENARIO CLUSTERS FOR FUTURE PROJECTIONS

- **Unavoidable:** freeze of CO₂ concentrations at 2000 levels – 0.6°C additional increase in temperature in addition to current 0.74°C
- **Stable:** at the end of century approaching stabilization (new equilibrium) of CO₂ concentrations – 1.8°C increase
- **Growth:** towards the end of century emissions grow 1 %/y (growth rate in the 1990s) - 2.8°C
- **Fast Growth:** CO₂ emissions grow 3 %/year (current situation) – 3.6°C increase

SCENARIO CLUSTERS



FUTURE ENVIRONMENTAL IMPACTS (1)

- At the global scale, forests can adapt to impacts of scenario “stable” (0.6°C additional increase), but there will be altered species compositions and changes in productivity
- Forest will have major difficulties to adapt to impacts of scenarios “growth” (2.8°C) or “fast growth” (3.6°C), in particular in semi-arid and arid climate

FUTURE ENVIRONMENTAL IMPACTS (2)

- Beyond global warming of 2.5°C relative to pre-industrial levels, the carbon-regulating sink services of forests are at risk of being lost entirely as land ecosystems turn into a net source of carbon
- This loss of carbon-regulating sink services of forests would seriously exacerbate climate change and cause a dangerous vicious cycle (feedback loop)

REGIONAL IMPACTS

- **Tropical forests:** increased productivity where water is available, but decline in dry areas;
- **Subtropical forests:** decreased productivity in most parts; risk of severe biodiversity losses
- **Temperate forests:** less affected than other forest types; increased and decreased growth
- **Boreal forests:** increased tree growth in most areas but risks of fires, pests and storms

SOCIO-ECONOMIC CONSIDERATIONS

Projected increases in frequency and severity of extreme weather events and forest disturbances will have far-reaching social and economic consequences particularly for forest-dependent poor



MANAGEMENT OPTIONS FOR ADAPTATION

- Practices associated with **Sustainable forest management** (SFM) work well in reducing the vulnerability of forests to climate change.
- Agroforestry (smallholder farmers)
- Need for flexibility in forest management on ground (adaptive co-management)

POLICY OPTIONS FOR ADAPTATION

- ❑ Commitment to achieving the goals of SFM must be strengthened
- ❑ New modes of governance are required to enable stakeholder participation, and provide secure land tenure and user rights and sufficient financial incentives
- ❑ More inter-sectoral coordination and policy integration



KEY CONCLUSION

KEY CONCLUSION: ADAPTATION AND MITIGATION ARE COMPLEMENTARY

- Successful mitigation requires that forests retain their capacity to adapt to climate change
- Unmitigated climate change is likely to exceed the adaptive capacity of many forests in the course of the current century
- **Large reductions in emissions from fossil fuels and deforestation are needed to preserve the adaptive and mitigative capacity of forests**

DISSEMINATION OF THE RESULTS (SCIENCE-POLICY INTERFACE)

- Results launched at UN (UNFF-8) in April 2009
 - received more attention than any other single document
 - successful science-policy interface
 - UNFF welcomed IUFRO/CPF to continue with a new panel
- Significant media coverage around the world
- Improved interaction between forestry and climate communities
 - Invitations to present results in climate-related meetings (e.g. Copenhagen in December 2009)

NEXT STEPS

- Regional policy brief "Making African Forests Fit for Climate Change"
 - will be published in spring 2010
 - other regions might follow

- Next Global Forest Expert Panel
 - consultations underway on the theme of the next assessment
 - report should feed into UNFF-9 in January 2011

Thank you for your attention !