



Appendix D

Conference Overview, Objectives, Framework, and Outputs

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Conference Overview, Objectives, Framework and Outputs

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Realizing Challenges, Exploring Opportunities

**Proceedings of the International Conference-Workshop on Biodiversity
and Climate Change in Southeast Asia: Adaptation and Mitigation**

19-20 February 2008 • Sofitel Philippine Plaza Hotel • CCP Complex, Pasay City, Philippines



Background



- SEARCA has completed the implementation of the Biodiversity Research Programme (BRP) funded by the Netherlands government
- Capitalizing on this initiative and lessons and experiences gained from the other programmes, we aim to be more responsive to emerging regional concerns
- One such regional and global concern is climate change.

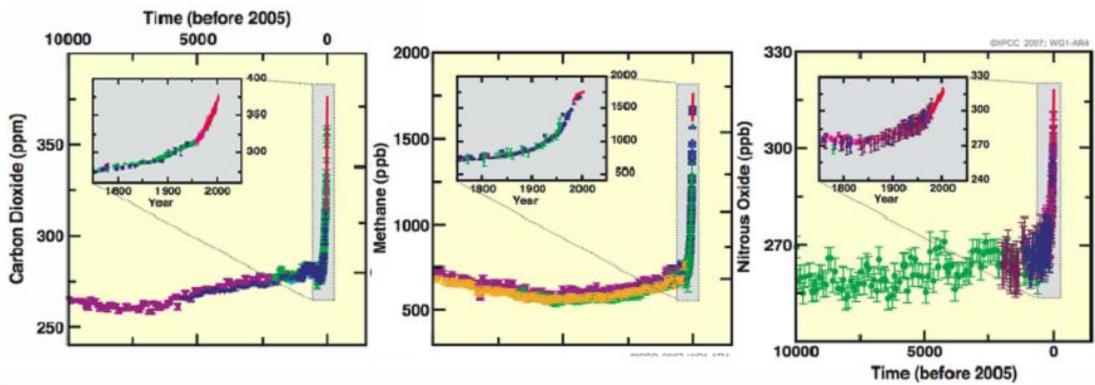


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Key Findings of IPCC 2007

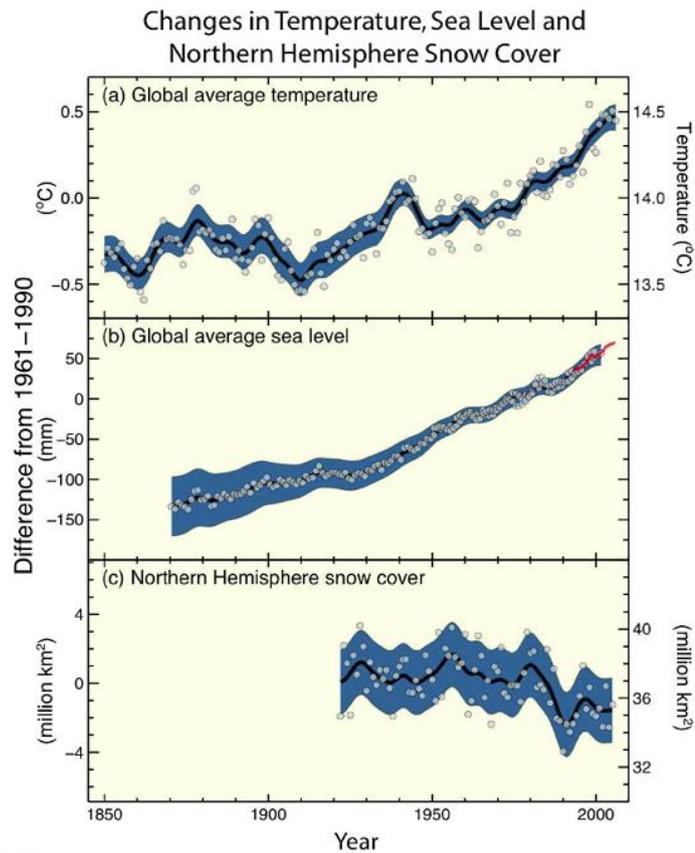
The current concentrations of greenhouse gases and their rates of change are unprecedented....



IPCC WG1 SPM, 2007



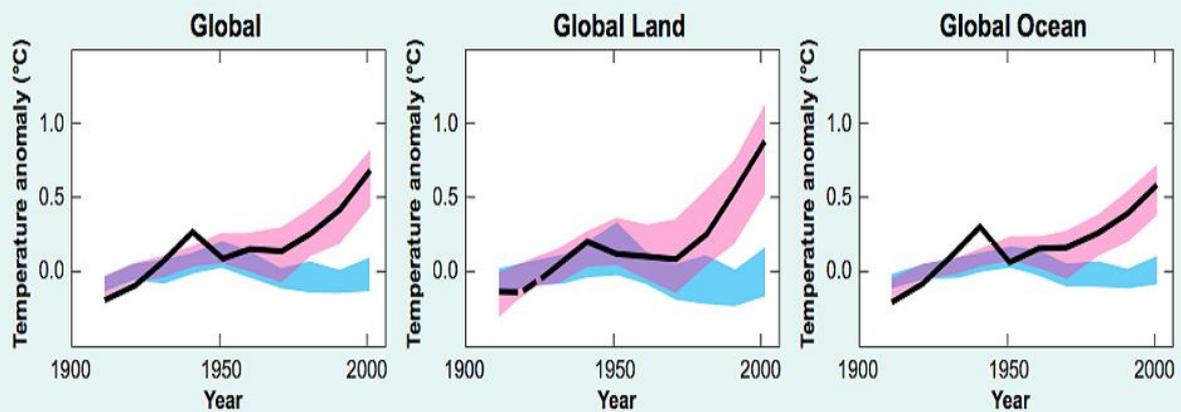
IPCC 2007

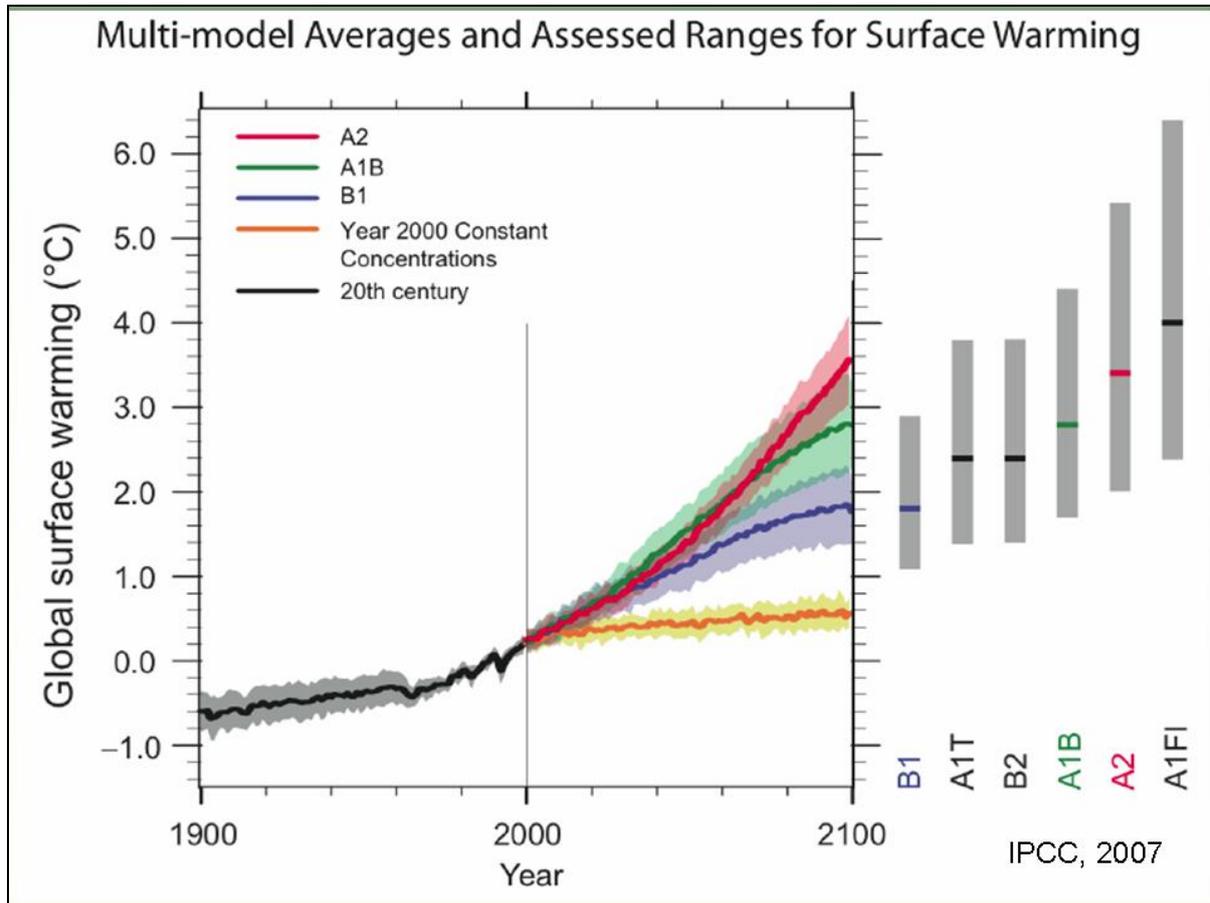




OBSERVATIONS

Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global mean sea level



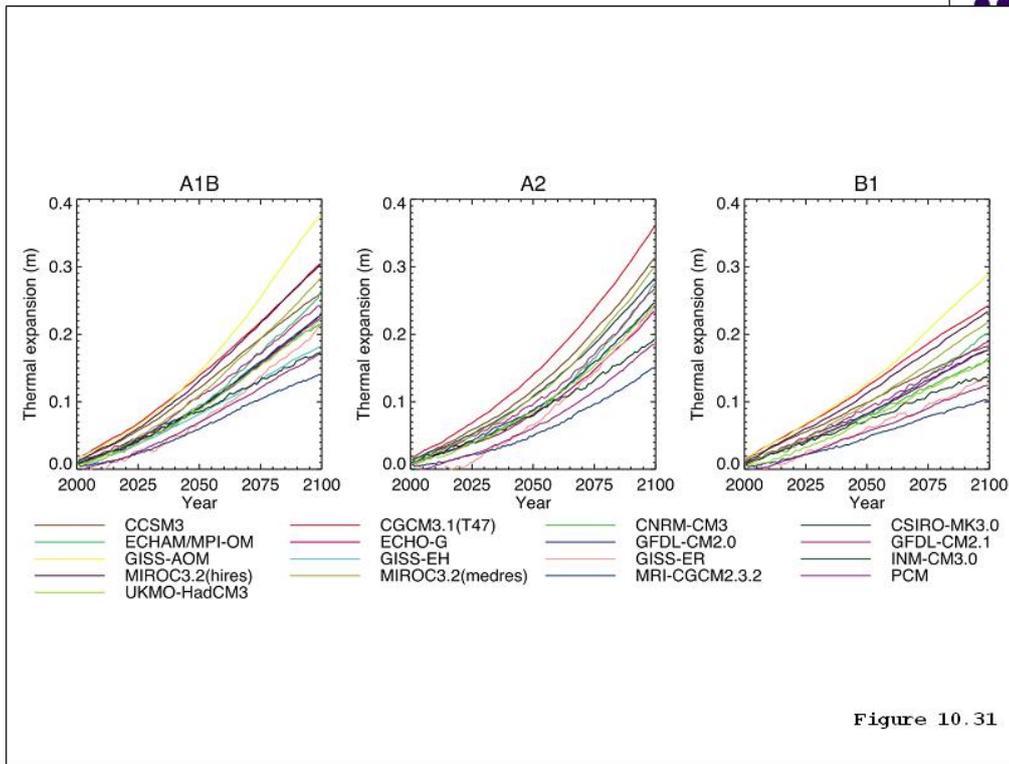


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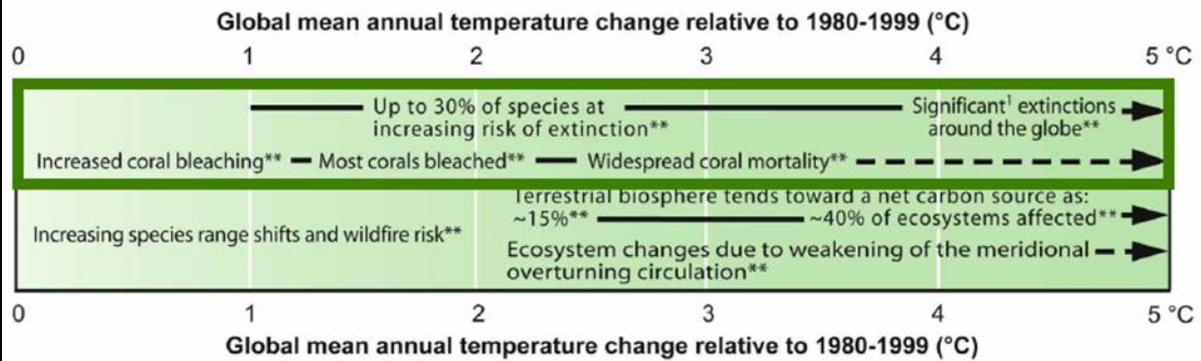


Projected global average sea level rise (m) due to thermal expansion during the 21st century relative to 1980 to 1999 under SRES scenarios A1B, A2 and B1.



Summary

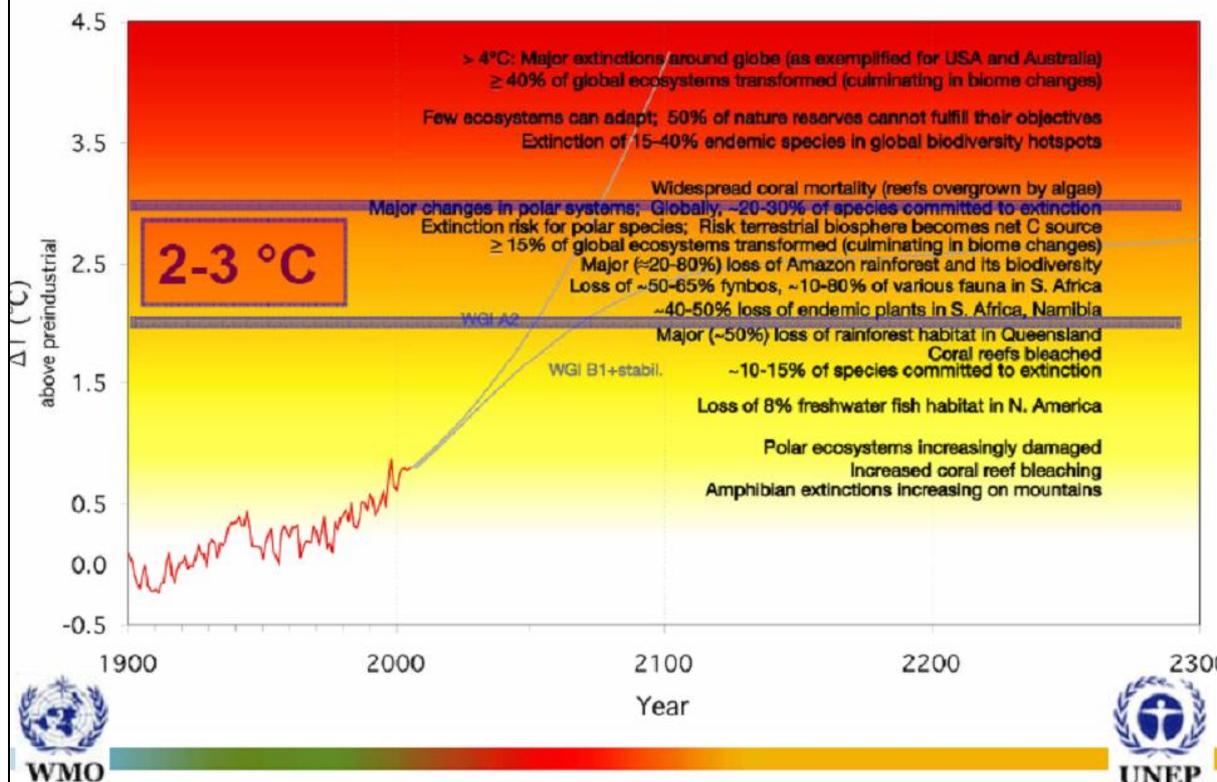
Impacts on Biodiversity



¹ Significant is defined here as more than 40%.



Summary - Ecosystem impacts



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Vulnerable ecosystems (IPCC, 2007)



- Coral reefs, sea-ice biomes
- Tundra, boreal forests, mountain and Mediterranean regions
- mangroves, salt marshes



Ecosystems in this century (high confidence)



- The resilience of many ecosystems is likely to be exceeded this century by an unprecedented combination of climate change, associated disturbances (e.g., flooding, drought, wildfire, insects, ocean acidification), and other global change drivers (e.g., land use change, pollution, overexploitation of resources).



Terrestrial ecosystems become net source (high confidence)



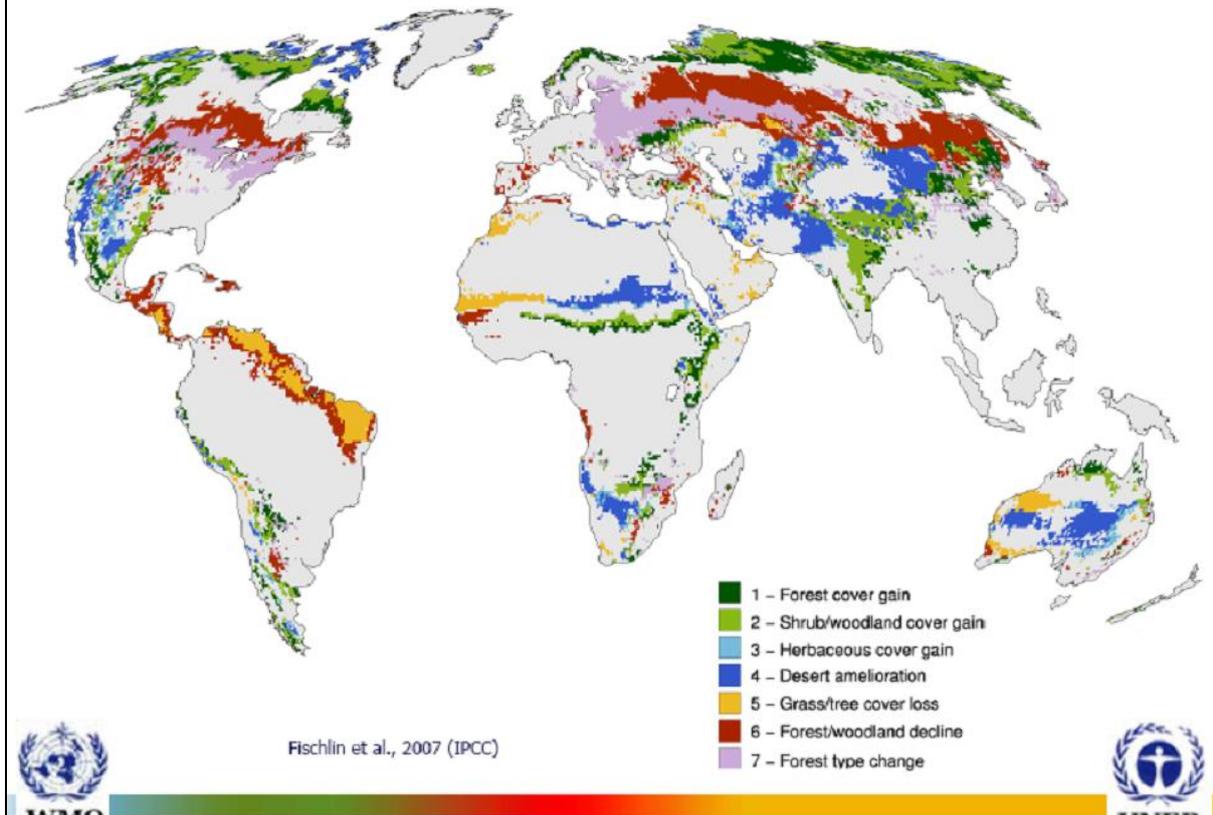
- Over the course of this century, net carbon uptake by terrestrial ecosystems is likely to peak before mid-century and then weaken or even reverse, thus amplifying climate change.



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Some DGVM Results - LPJ A2 HadCM3



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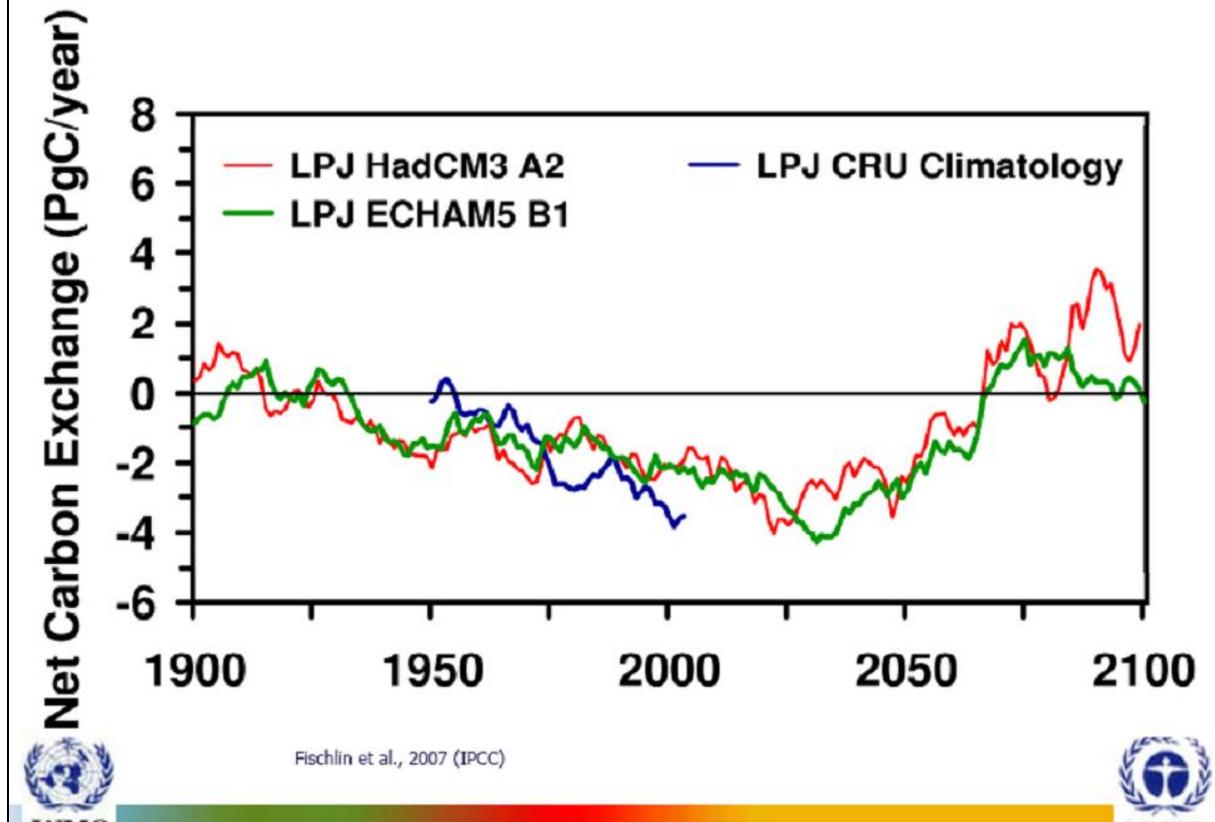
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Some DGVM Results - LPJ A2 HadCM3





Vulnerability to specific impacts of climate change will be most severe when and where they are felt together with stresses from other sources



- Non-climatic stresses can include poverty, unequal access to resources, food security, environmental degradation and risks from natural hazards

	Habitat change	Climate change	Invasive species	Over-exploitation	Pollution (nitrogen, phosphorus)
Forest					
Boreal	↘	↑	↘	→	↑
Temperate	↘	↑	↑	→	↑
Tropical	↑	↑	↑	↘	↑
Dryland					
Temperate grassland	↘	↑	→	→	↑
Mediterranean	↘	↑	↑	→	↑
Tropical grassland and savanna	↘	↑	↑	↘	↑
Desert	→	↑	→	→	↑
Inland water	↑	↑	↑	↘	↑
Coastal	↘	↑	↘	↘	↑
Marine	↑	↑	→	↘	↑
Island	→	↑	↘	→	↑
Mountain	→	↑	→	→	↑
Polar	↘	↑	→	↘	↑

<p>Driver's impact on biodiversity over the last century</p> <p>Low: Light yellow</p> <p>Moderate: Yellow</p> <p>High: Orange</p> <p>Very High: Red</p>	<p>Driver's current trends</p> <p>Decreasing impact: ↘</p> <p>Contributing impact: →</p> <p>Increasing impact: ↗</p> <p>Very rapid increase of the impact: ↑</p>	<p>Source: Millennium Ecosystem Assessment</p>
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Climate change is likely to affect forest expansion and migration, and exacerbate threats to biodiversity resulting from land use/cover change and population pressure in most of **Asia**

- Increased risk of extinction for many flora and fauna species in Asia is likely as a result of the synergistic effects of climate change and habitat fragmentation





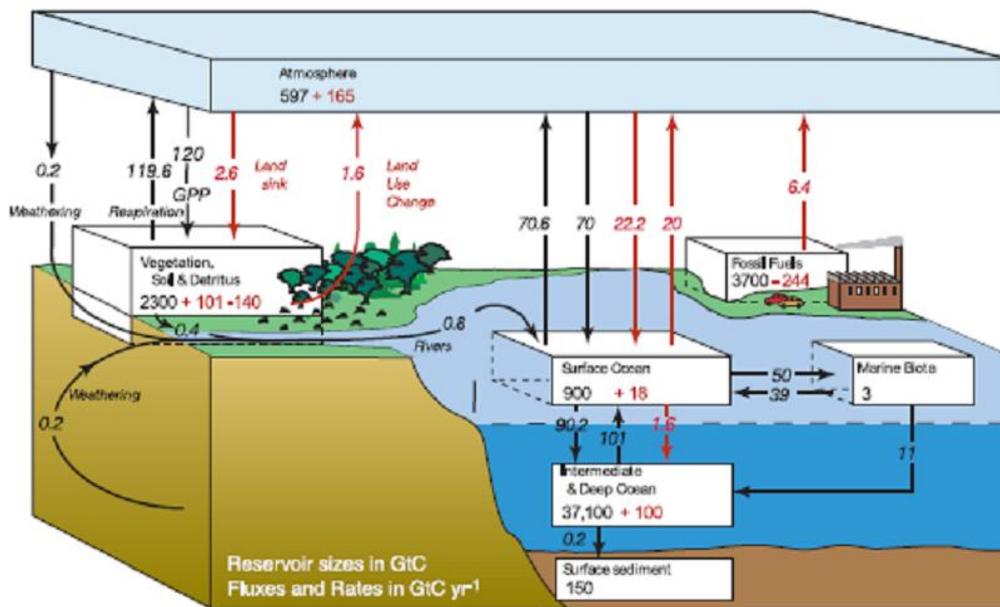
Adaptation: Natural Ecosystems



- Improved technologies for tree plantation development and reforestation could likely enhance adaptation
- Improvement of protection from fires, insects and diseases
- Comprehensive intersectoral programs that combine measures to control deforestation and forest degradation with measures to increase agricultural productivity and sustainability
- Reducing logging waste, implementing soil conservation practices, and using wood in a more carbon-efficient way

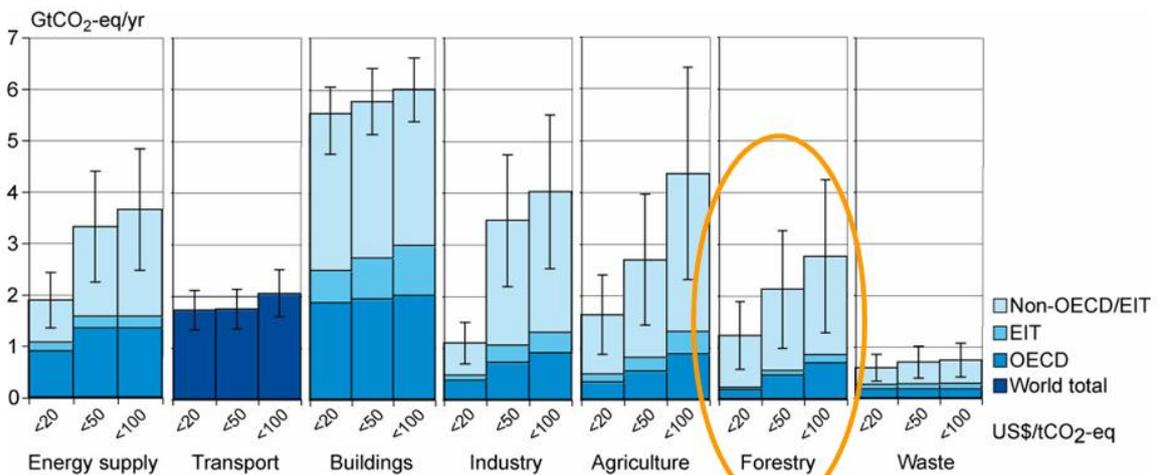


Biodiversity and CC mitigation





All Sectors and Regions have potential to contribute to CC mitigation



Note: estimates do not include non-technical options, such as lifestyle changes.



Mitigation Options in Forestry



	Mitigation Activities	Type of Impact	Timing of Impact	Timing of Cost
1A	Increase forest area <i>(e.g. new forests)</i>	↑		
1B	Maintain forest area <i>(e.g. prevent deforestation, LUC)</i>	↓		
2A	Increase site-level C density <i>(e.g. intensive management, fertilize)</i>	↑		
2B	Maintain site-level C density <i>(e.g. avoid degradation)</i>	↓		
3A	Increase landscape-scale C stocks <i>(e.g. SFM, agriculture, etc.)</i>	↑		
3B	Maintain landscape-scale C stocks <i>(e.g. suppress disturbances)</i>	↓		
4A	Increase off-site C in products <i>(but must also meet 1B, 2B and 3B)</i>	↑		
4B	Increase bioenergy and substitution <i>(but must also meet 1B, 2B and 3B)</i>	↓		



Legend

Type of Impact	Timing (change in Carbon over time)	Timing of cost (dollars (\$) over time)
Enhance sink ↑	Delayed	Delayed
Reduce source ↓	Immediate	Up-front
	Sustained or repeatable	On-going

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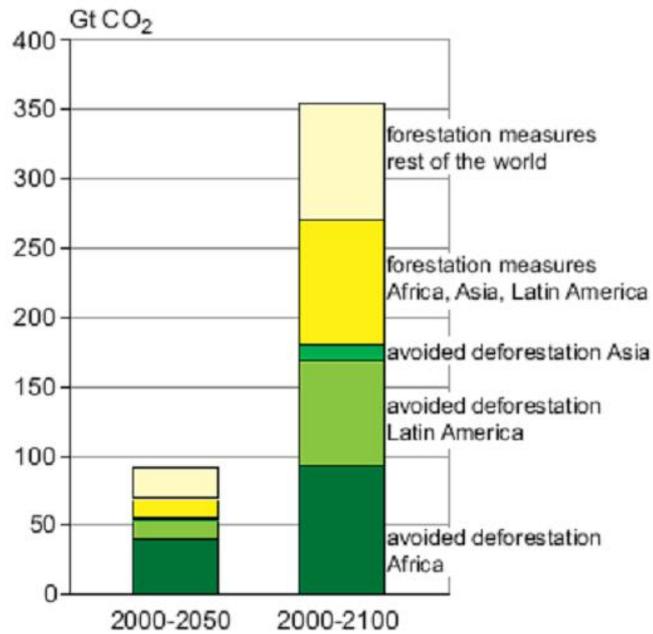


Figure 9.6: Cumulative mitigation potential (2000-2050 and 2000-2100) according to mitigation options under the 2.7 US\$/tCO₂ +5%/yr annual carbon price increment

Source: Sathaye et al., 2007.

IPCC WG III, 2007



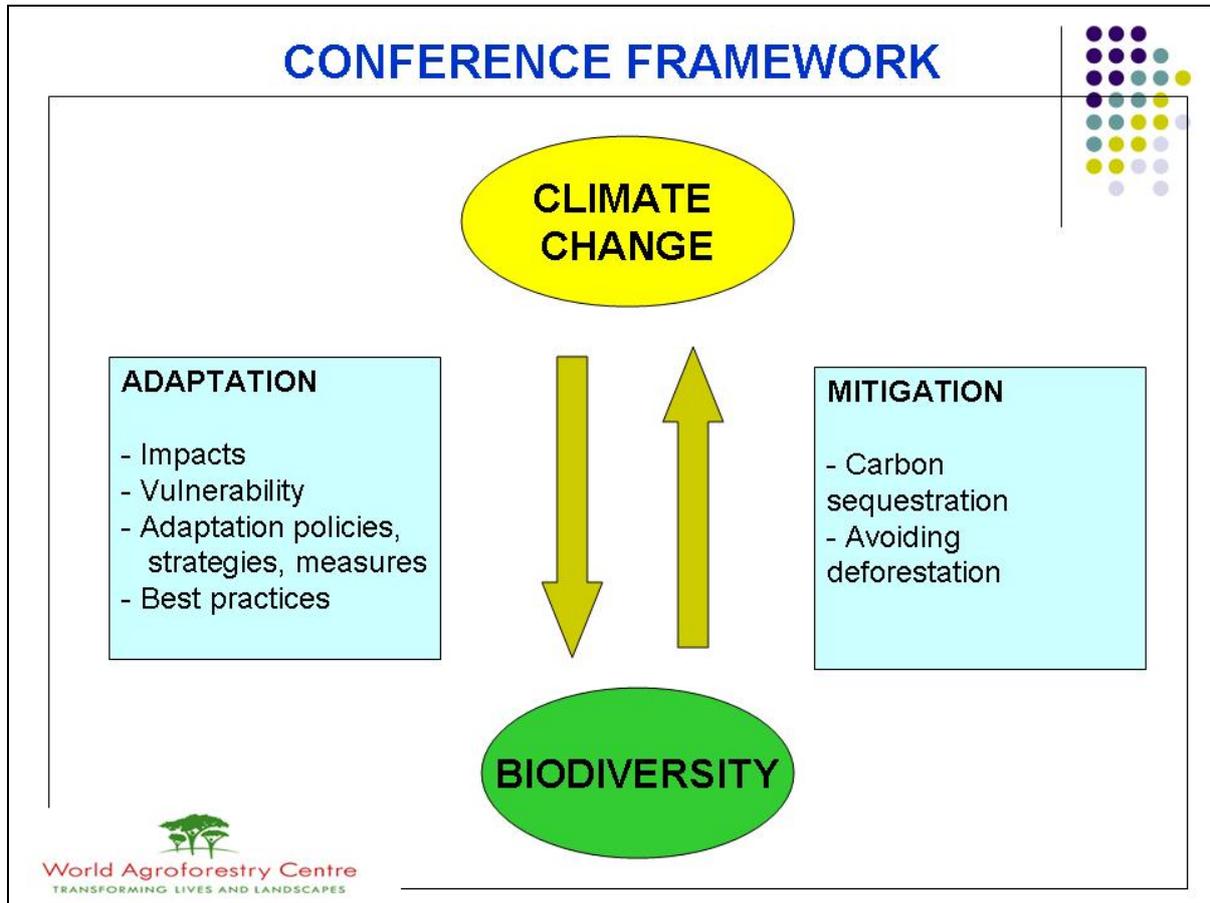
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Objectives



- Presenting research results on the impacts of climate change to biodiversity in Southeast Asia (SEA) region;
- Presenting adaptation policies, measures, and strategies and/or best practices on climate change for biodiversity conservation;
- Presenting research results on mitigating climate change through biodiversity conservation in the region;



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Objectives...



- Identifying the elements of a feasible regional research-for-development program on biodiversity and climate change by identifying governance, institutional issues, research gaps; and
- Drawing the interest and commitment of participating experts and potential partners in marketing it to donors, and in getting involved in its future implementation.



Outputs



- Policy recommendations and other possible researchable areas on the interface of biodiversity and climate change;
- A network of experts and cooperators who could assist in developing the regional program and implementing it in the future;
- A concept note for a Regional Program on Biodiversity Conservation and Climate Change in SEA; and
- Conference Proceedings and other publications



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Schedule

- Day One: presentations
- Day Two: workshops and synthesis

