Role of forests in climate change: impacts, adaptation and mitigation – a European perspective

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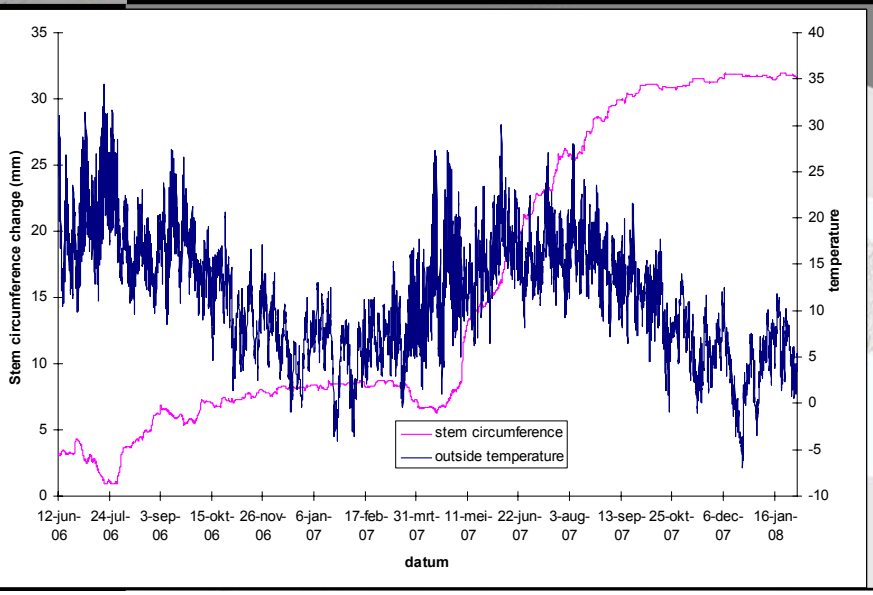
Pan-European workshop as a regional contribution to the United Nations Forum on Forests (UNFF)

mmm

We start from one tree

How resilient is this stand ?

..this one Douglas fir…



Mandate for this meeting

- **priority issues ….. forests in …..climate change…**
- **…how issues have been addressed in Europe**
- **how to ensure coherent actions …**
- **…regional contribution to the work of UNFF**
- **the role of different international actors (UNFCCC, UNFF, CBD, UNCCD, IUCN, FAO, IPCC etc.**

..quite a lot

Set up

1. **4AR, WG III, ch 9: Mitigation globally & problems in the report**
2. **Impacts of climate change globally and on European forests**
3. **European forest aspects**
4. **Vision on policy aspects**

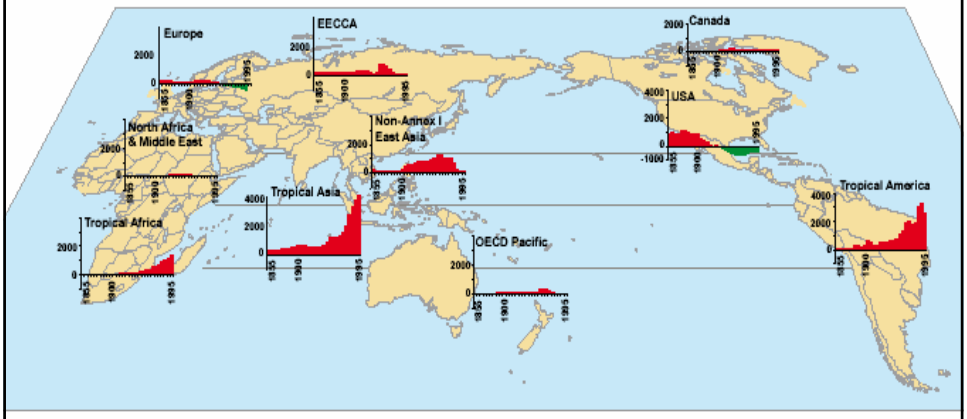
1. Fourth assessment report, WG III, ch 9

Mitigation globally, and problems in report

Ch 9 Forestry

- SR LULUCF and TAR overly positive
- 4AR should give as far as possible realistic estimate: close to market potential
- There was more experience with Kyoto-related projects
- Relate to sustainable development

Baseline emissions: Forests

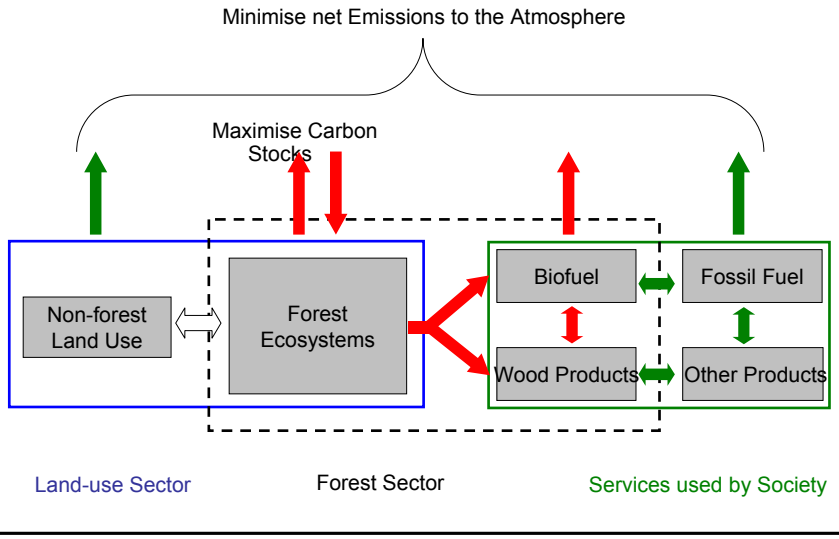


No globally accepted baselines

Methods

- Totally rely on peer reviewed literature
- Top down global models
- Bottom up country and continental estimates

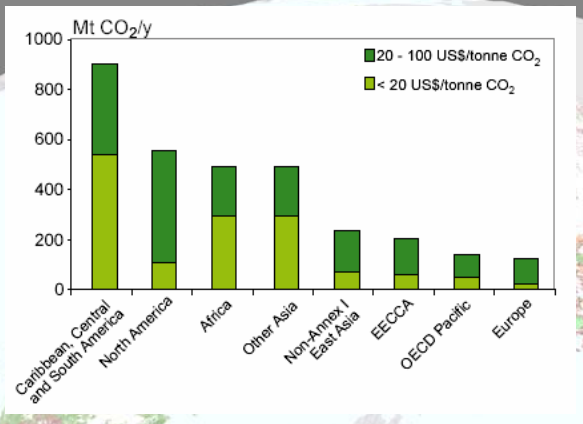
Taking into account the whole system



One message ..

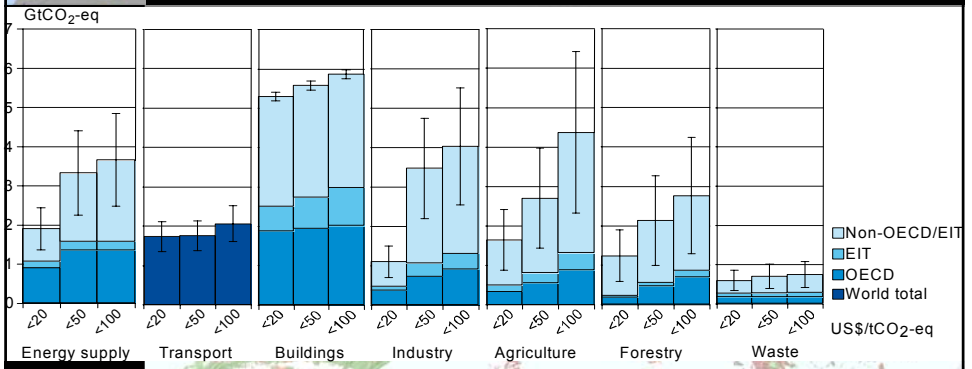
- In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustained mitigation benefit.

Regional Distribution of Economic Potential (US$ 100/tCO_2-eq)



65% of potential is in developing regions
Developing countries: reduced deforestation 40% of potential
Developed countries, EIT: forest management 63-72% of potential

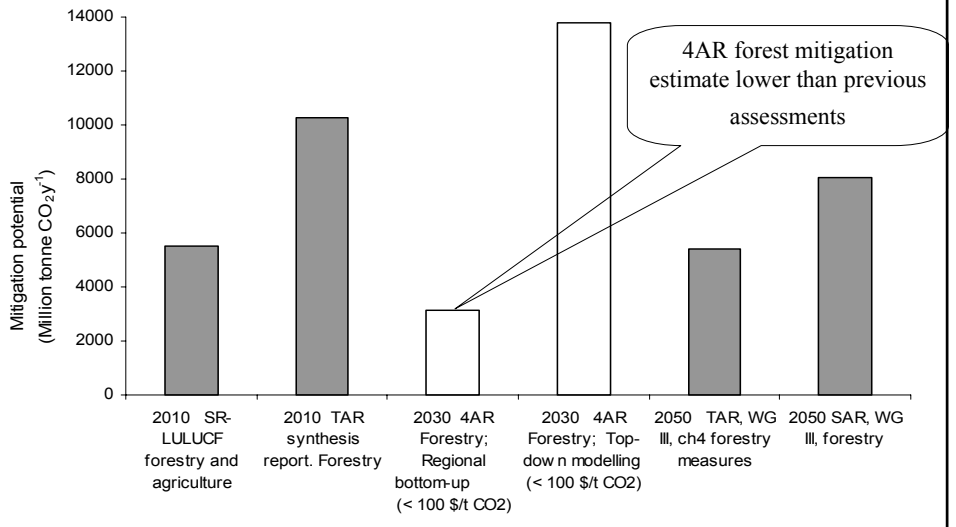
Economic Mitigation Potential in 2030 in perspective to other sectors



Mitigation practices in Forests

Reduced emissions from deforestation; afforestation; forest management, product management i.e. optimised chains

Various ipcc estimates for forestry



Shortcomings..?

- Only rely on published literature; no own analyses
- Short peak periods of writing
- Put sector related people together
- No global concerted action in between reports
- Weak link to WG II

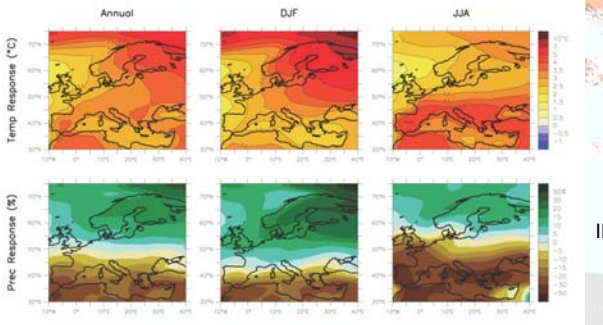
2. Impacts of climate change on forests globally and Europe

Physical climate change in Europe

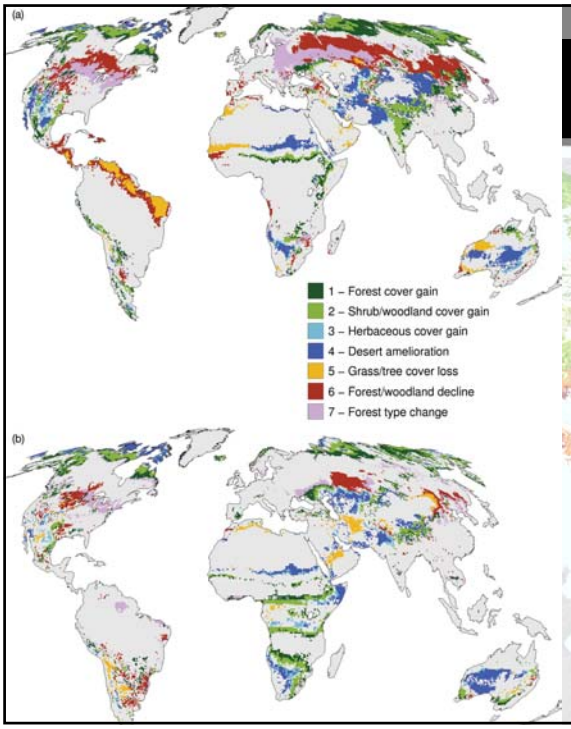
We understand very little of long term impacts

Doom scenarios reach the media

Some modelling studies; little empirical evidence



IPCC 2007 , WG I, ch 11

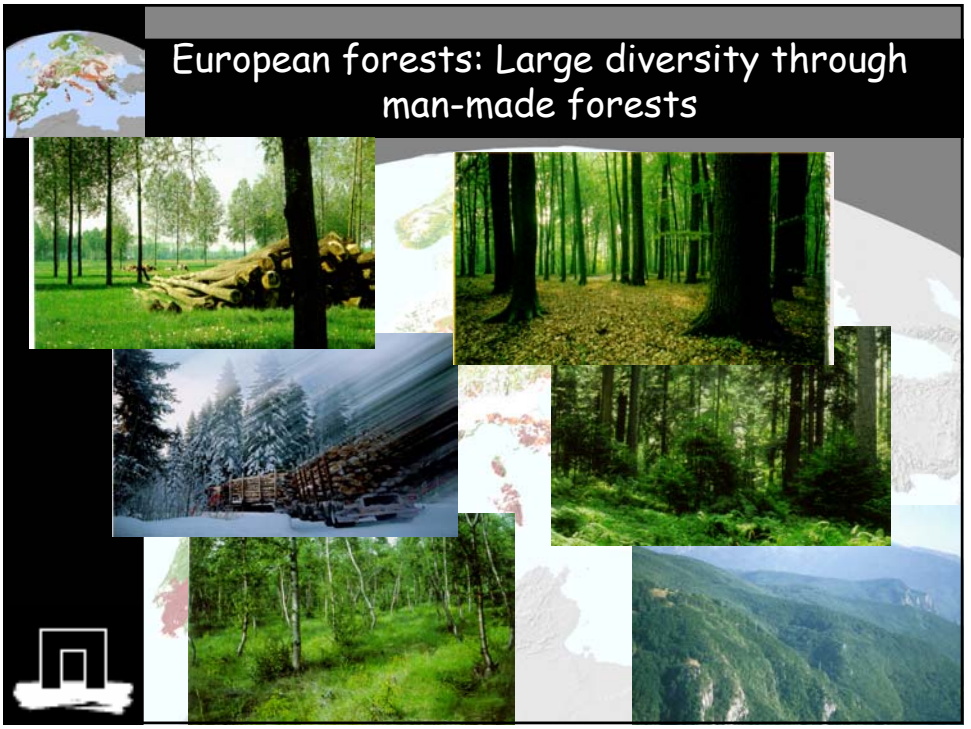


Example : Impacts: area changes

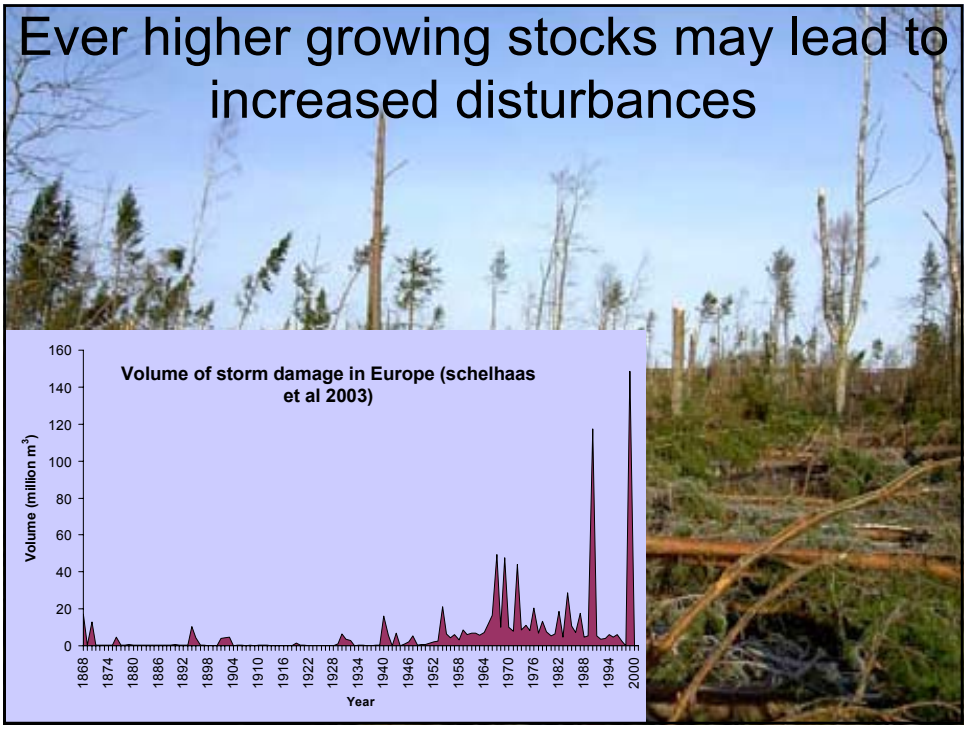
Highly uncertain;

Based on basic plant physiological understanding from the 70's

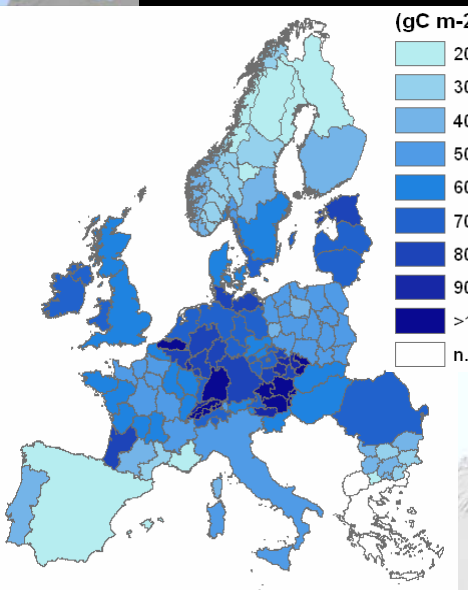
European forests: Large diversity through man-made forests



Ever higher growing stocks may lead to increased disturbances



Carbon sequestration assessed with EFISCEN



Biomass expansion factors and a soil model (yasso) allow for carbon

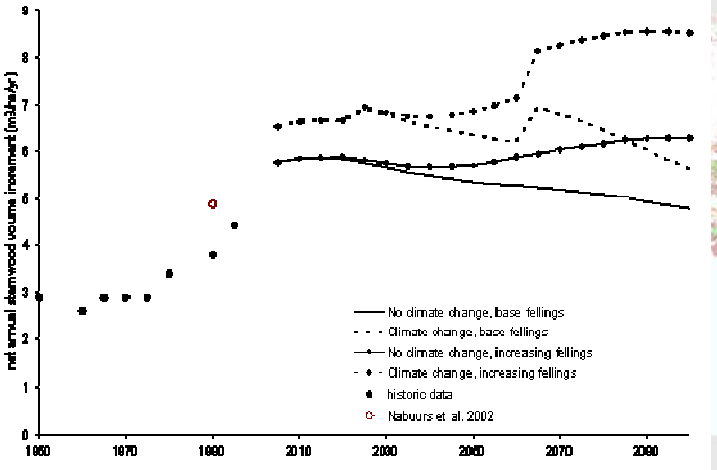
Forest NPP (2000-2005)

(Zanchi et al, in prep) EFI

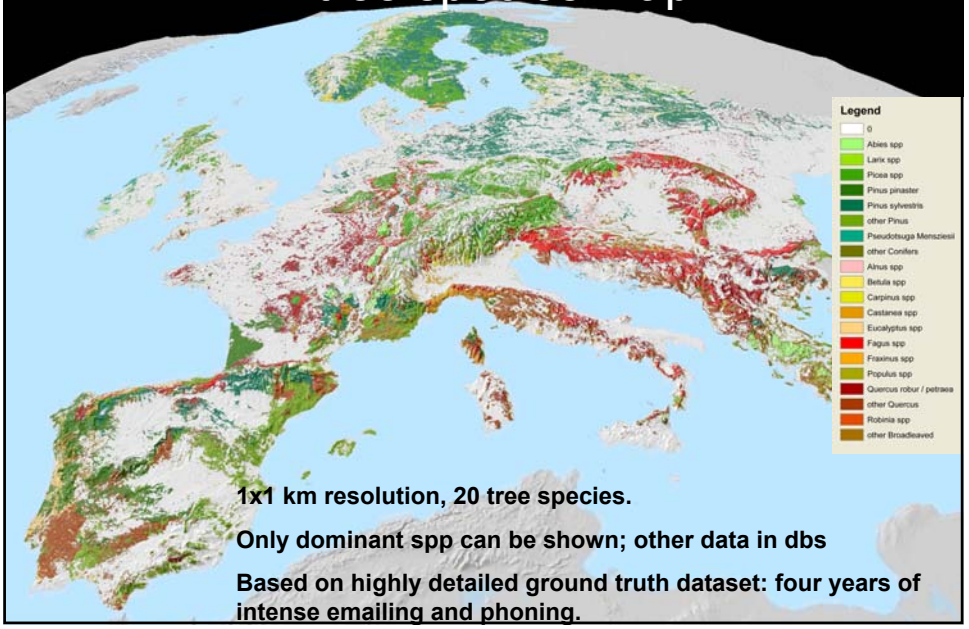
Impacts of climate change assessed with Efiscen

Process based models scaled to an empirical model

Nabuurs et al, 2006; Pussinen et al, in press



Improving European collaboration ? tree species map

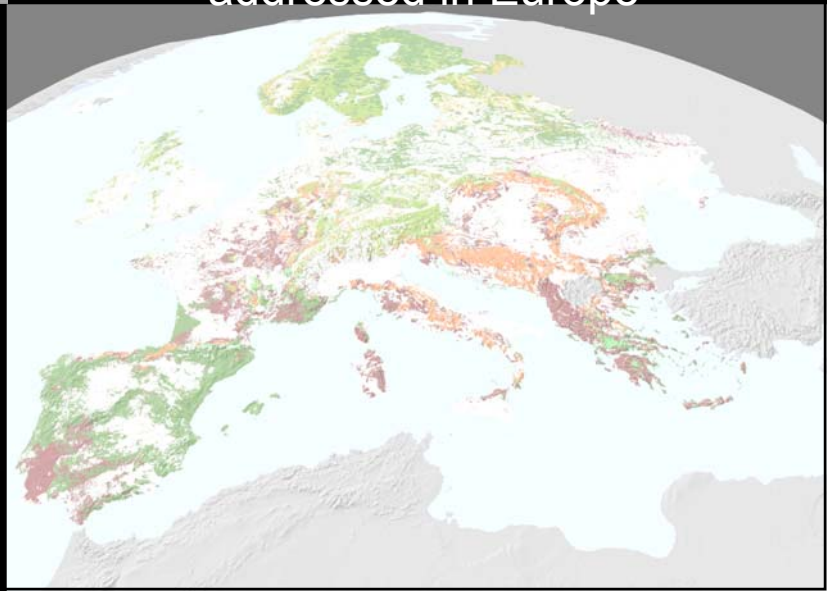


1x1 km resolution, 20 tree species.

Only dominant spp can be shown; other data in dbs

Based on highly detailed ground truth dataset: four years of intense emailing and phoning.

3. How are climate /forest issues addressed in Europe

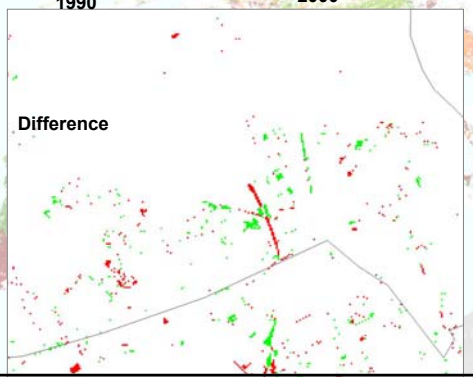


- Reporting of GHG balance from European countries still fragmented; variable
- We have MCPFE, and Forest action plan, but..
  - No clear forest policy that implements climate change adaptation
  - or that implements carbon measures
  - Implementation and collaboration needs large effort

Example : Deforestation also in Europe

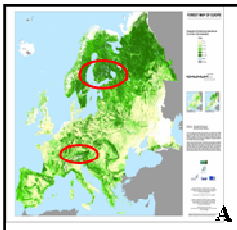
1990

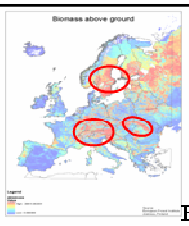
2000

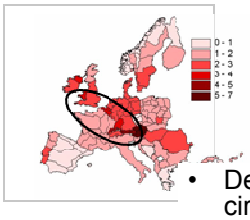


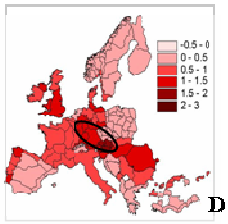
Several countries in Europe who do proper land use map overlay; report deforestation.

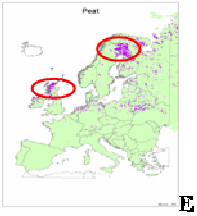
On one hand accuracy is required, but gets bogged down in discussions about few hectares

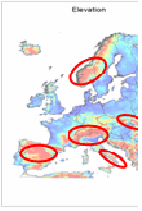


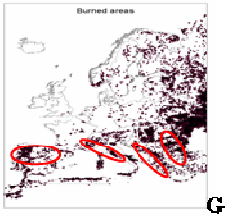


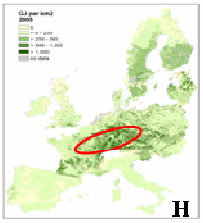


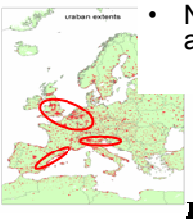




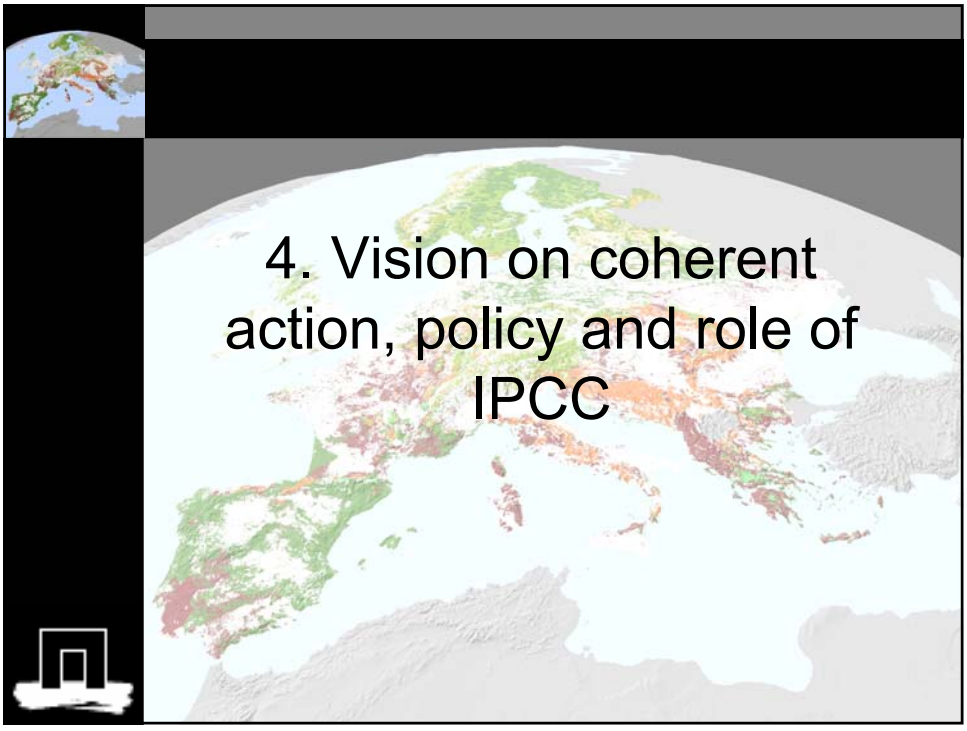








- Depending on circumstances; measures need to be different.
- UN negotiations can never grasp that
- But within Europe it is certainly possible
- Need for concerted actions



4. Vision on coherent action, policy and role of IPCC

Vision

- Land use projects are stalled because of heavy monitoring burden, perceived risk, and bureaucracy
- REDD receives lot of attention now:

Vision

- REDD will also get bogged down in rules, guidelines, extensive discussions
- Far to many details in national reporting
- CDM, AR, REDD➔ bits and pieces of the land; always problematic
- Need to go for holistic inclusion of land use (concentrate on big picture)

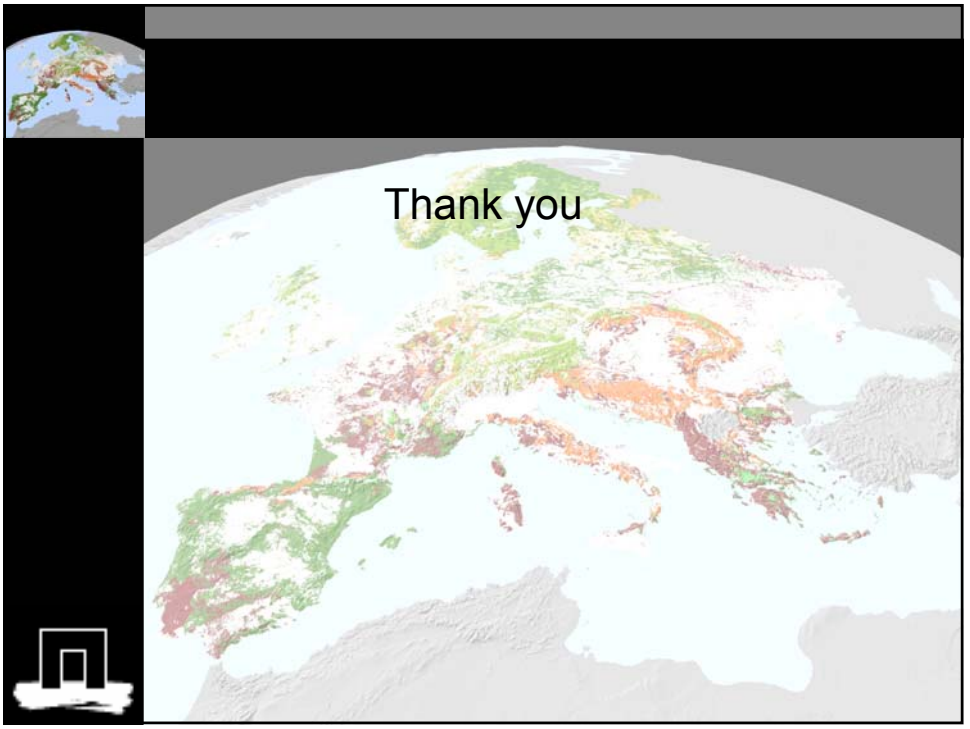
…or totally take LULUCF out of negotiations

Vision

- IPCC has to act in between assessments
- In order to resolve large difference in mitigation estimates:
- Prepare now for global concerted effort to improve insights.

- This together with reduced bureaucracy can get LULUCF going

- REDD, UNFF, MCPFE, CBD all aim more or less for the same. A global concerted action is needed
- Supported by regionally organised science: to take away uncertainty
- Europe can collaborate much better and much more intensively


Thank you


Bernhard Schlamadinger 1966 - 2008
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