

COST Action E25

Domain Forests &
Forestry Products



<http://cost.cordis.lu/>



<http://www.esf.org/>

COST is supported by
the EU Framework
Programme

European Network for long-term Forest Ecosystem and Landscape Research

<http://www.enfors.org>

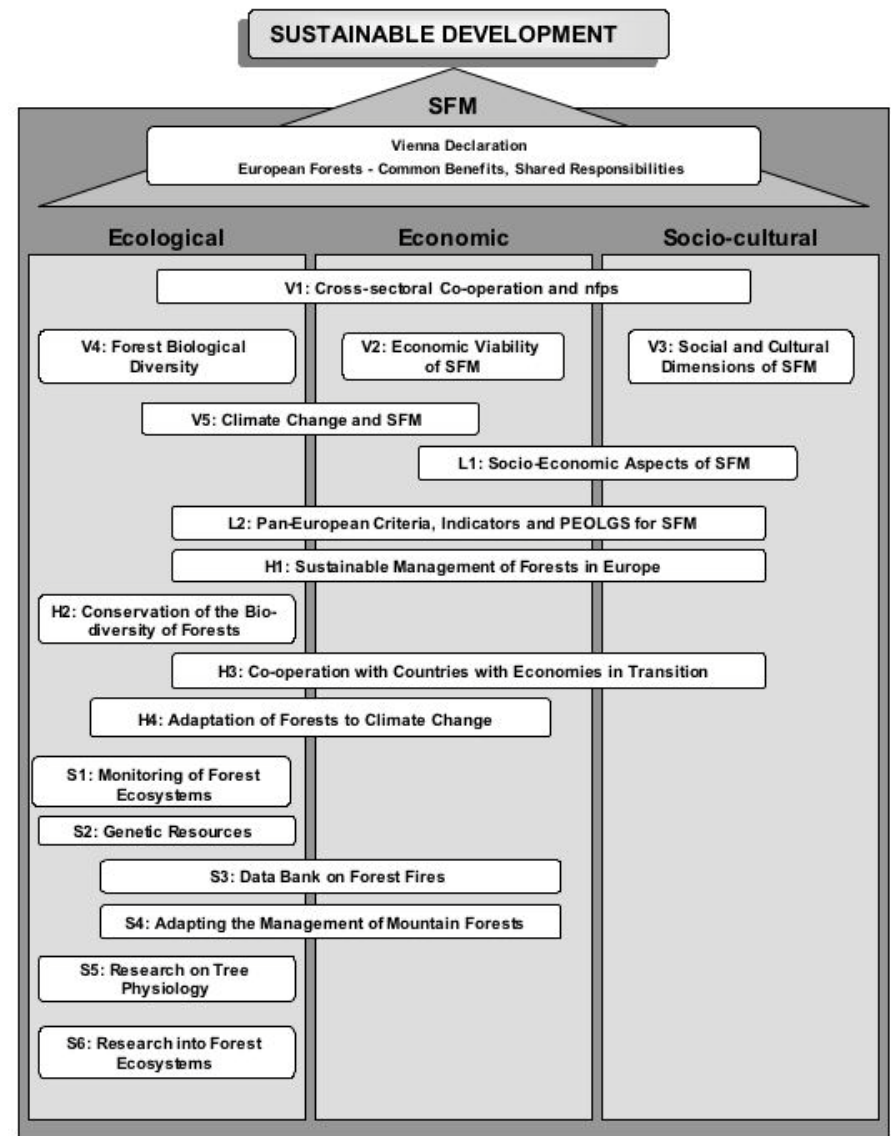


Background Background



Ministerial Conferences on the Protection of Forests in Europe, MCPFE

(Strasbourg 1990, Helsinki
1993, Lisbon 1998, Vienna
2003)





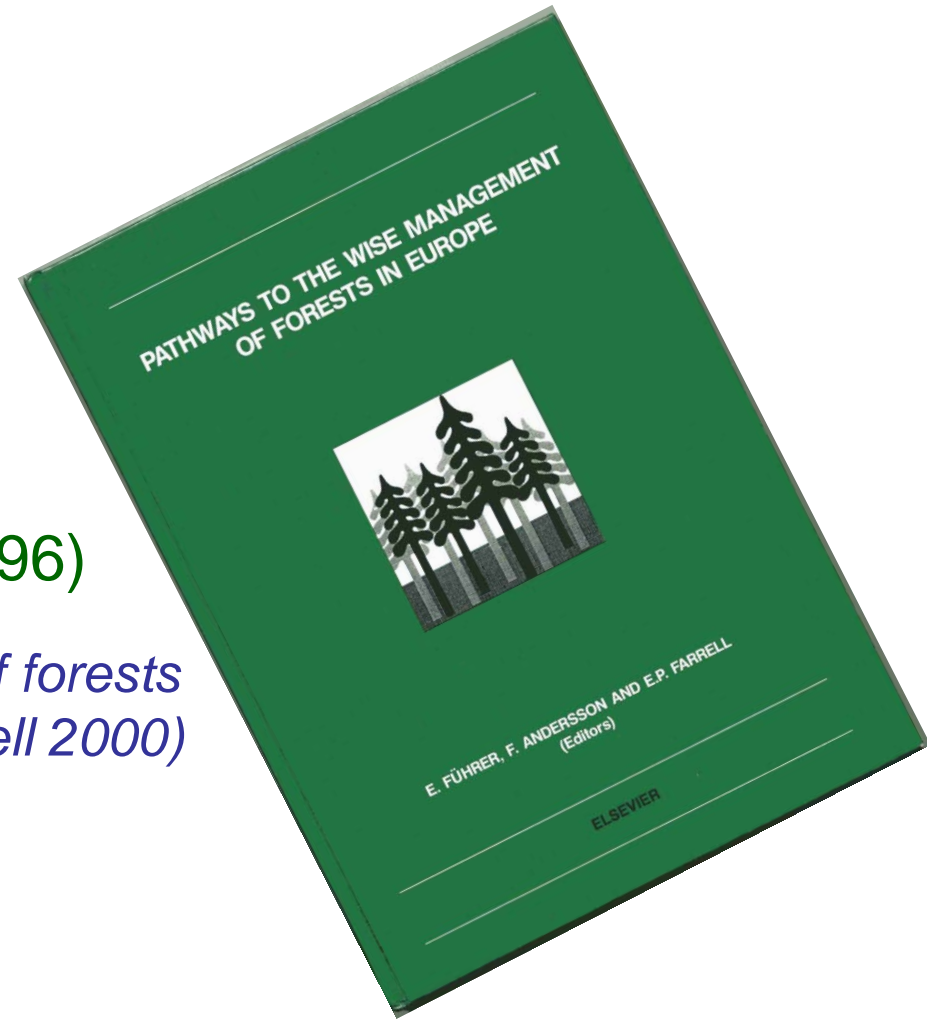
Background Background



European Forest Ecosystem
Research Network, EFERN (1996)

*“Pathways to the wise management of forests
in Europe” (Führer, Andersson & Farrell 2000)*

- ➡ From Ecosystem to Landscape
- ➡ Socio-economics





The problem of scale

The problem of scale

■ Elements

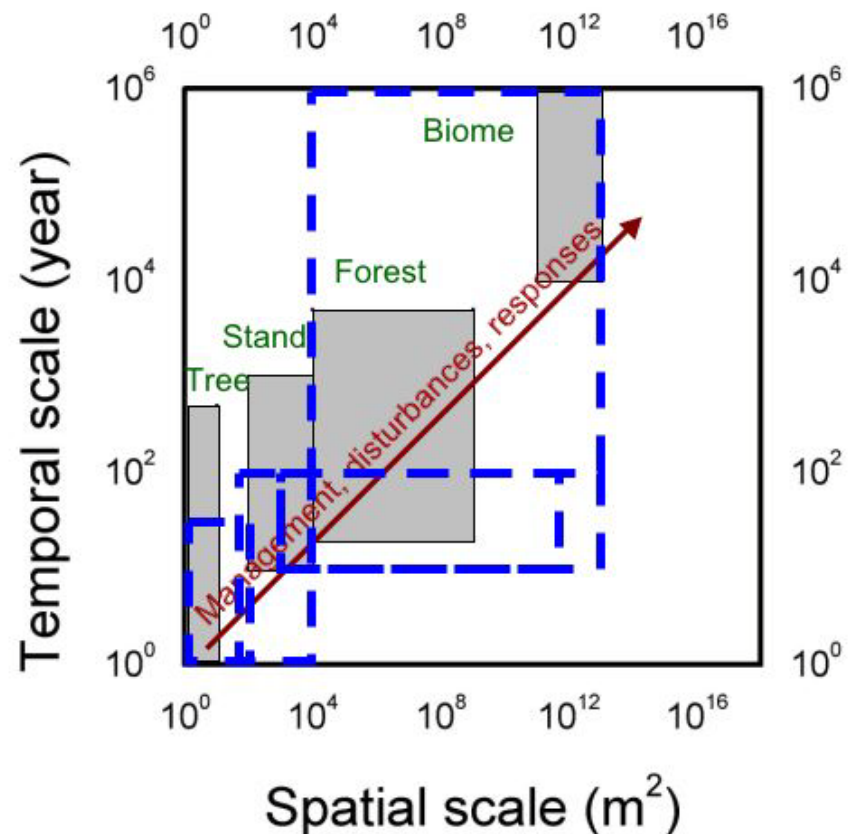
- Ecological
- Socio-cultural
- Economic

■ Processes

- Ecological
- Socio-cultural
- Economic

■ Methodologies

- Experiments
- Inventories/surveys
- Monitoring
- Comparative studies





The long-term perspective

The long-term perspective

- Securing Europe's forest production - the earliest forest field experiments 1850-1920
 - National Forest Inventories
 - Thinning experiments, growth & yield trials, etc.
 - Regeneration and establishment
- Growing environmental concerns - the 1960s and '70s
 - International Biological Programme
 - UNESCO Man and Biosphere reserves
 - Watershed studies
- Forest dieback and Forest decline - 1980s and '90s
 - Ecosystem experiments
 - Forest health monitoring
- Global Climate Change - the 1990s to the present day
 - Eddy flux towers
 - Open-top-chambers and experimental warming

The long-term perspective

The long-term perspective

Surveys

■ pH-changes

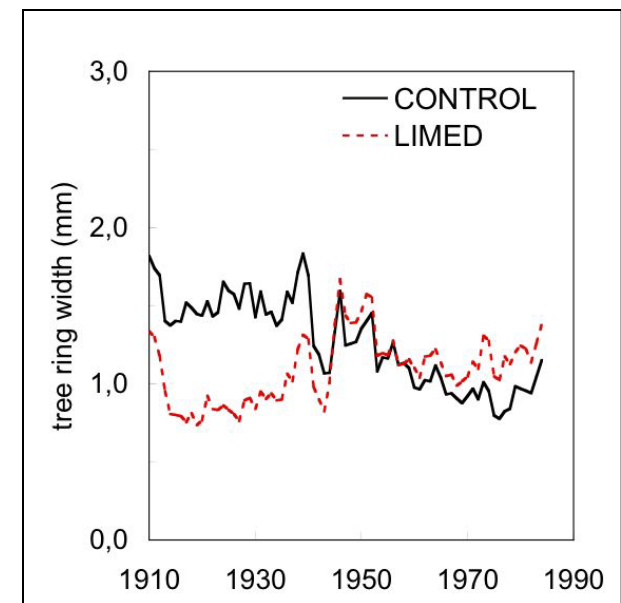
- Tönnersjöheden, S Sweden 1927/1984 (Hallbäck and Tamm 1985, 1986)
- Kulbäcksliden, N Sweden 1927/1985 (Hallbäck and Tamm, 1988)
- Flora and vegetation changes in S. Swedish forests (Grerup-Falkenberg and Tyler)

Experiments

■ Tree growth

- Farabol liming experiment 1910-1985 (Popovic in Andersson and Lundkvist 1989)
- Growth rate changes in Europe (Spiecker et al. 1996)

Value of long-term observations





Aims - COST Action E25

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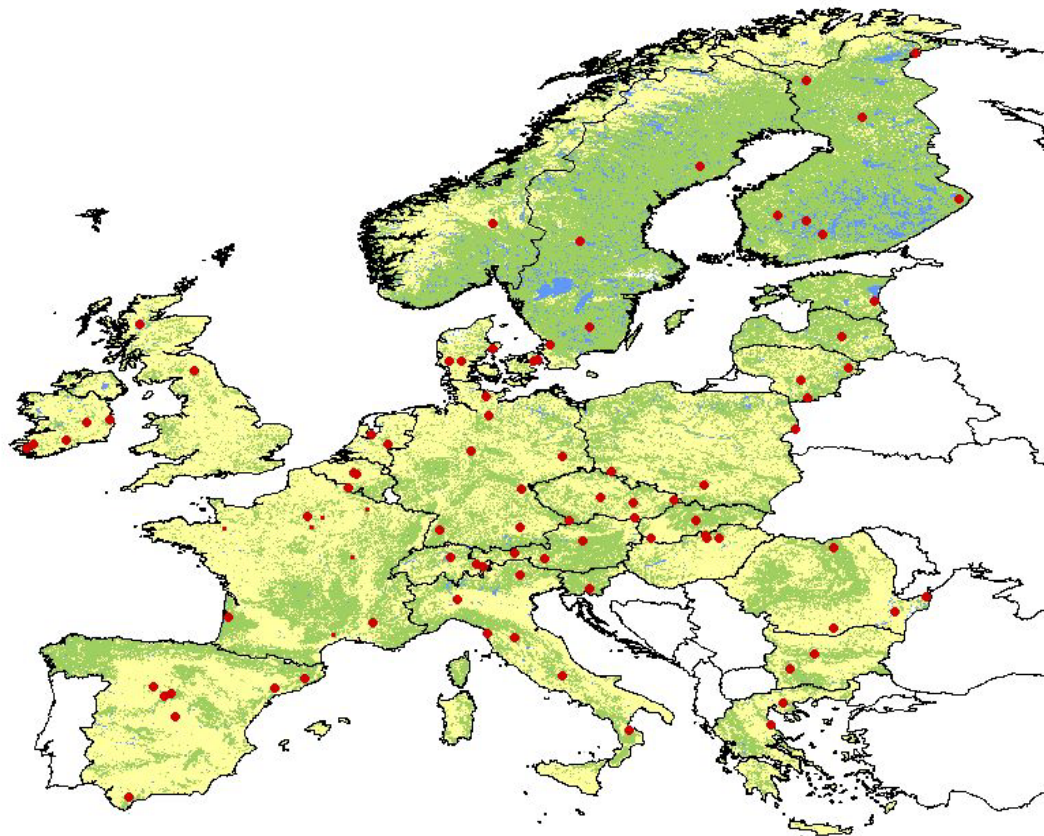
- A pan-European **network** of **field research facilities** of relevance for sustainable forest management.
- A common scientific **research programme/strategy** on **forest ecosystems** also focusing on the **landscape** level and the **long-term** perspective.
- A European **database** on field experiments relevant to sustainable forest management.



The ENFORS Network

Present involvement:

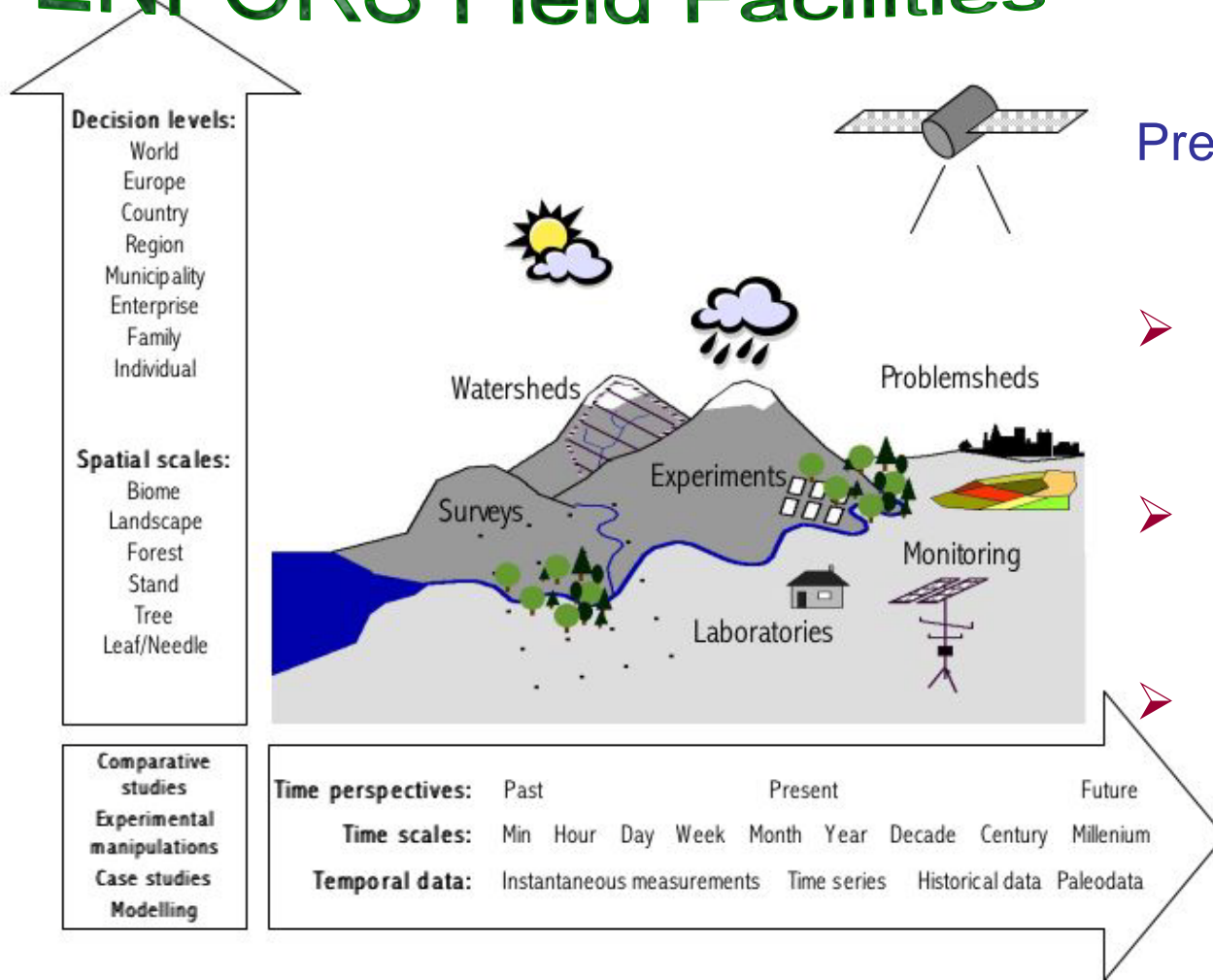
- 26 countries
- 100 major research organisations
- 300 researchers
- nearly 90 field facilities



Background: FAO Forest cover map 1999



ENFORS Field Facilities



Present list of French ENFORS Field Facilities:

- Landes Maritime Pine Forest
- Mediterranean hinterland ("Zone Atelier")
- F-ORE-T



ENFORS Field Facilities

- **~ 90 facilities in 26 countries**
 - working in collaboration with other research sites as well as related national and international research and monitoring programmes.
- **A baseline for assessing sustainable development and environmental assessment of Europe's forests**
 - with scientific expertise and long-term data on major forest ecosystems and landscape types in Europe.
- **Research platforms and demonstration areas**
 - for innovative research approaches at small and large spatial and temporal scales, as well as national and international collaborations platforms with a broad stakeholder participation.



Pan-European network

Pan-European network

Conrad's continentality index 1961-90

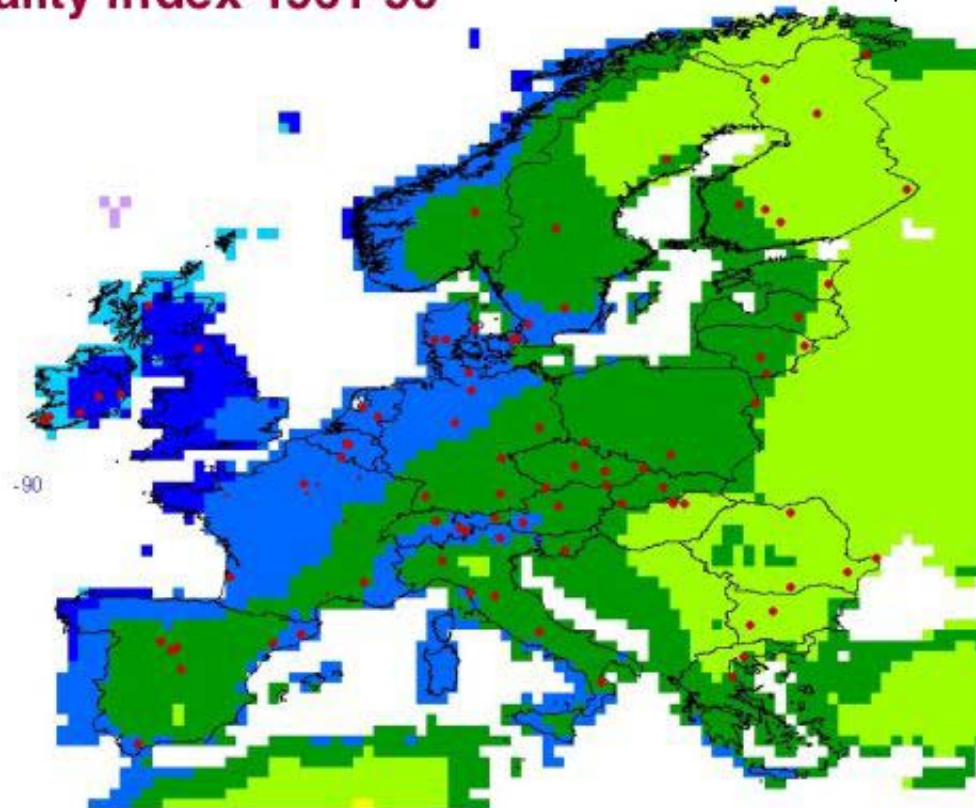
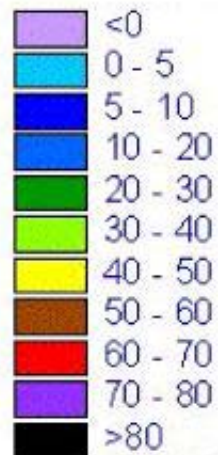
(Crawford 2000)

$$K = [1.7A/\sin(\phi+10)]-14;$$

where

A = average annual
temperature range

ϕ = latitude

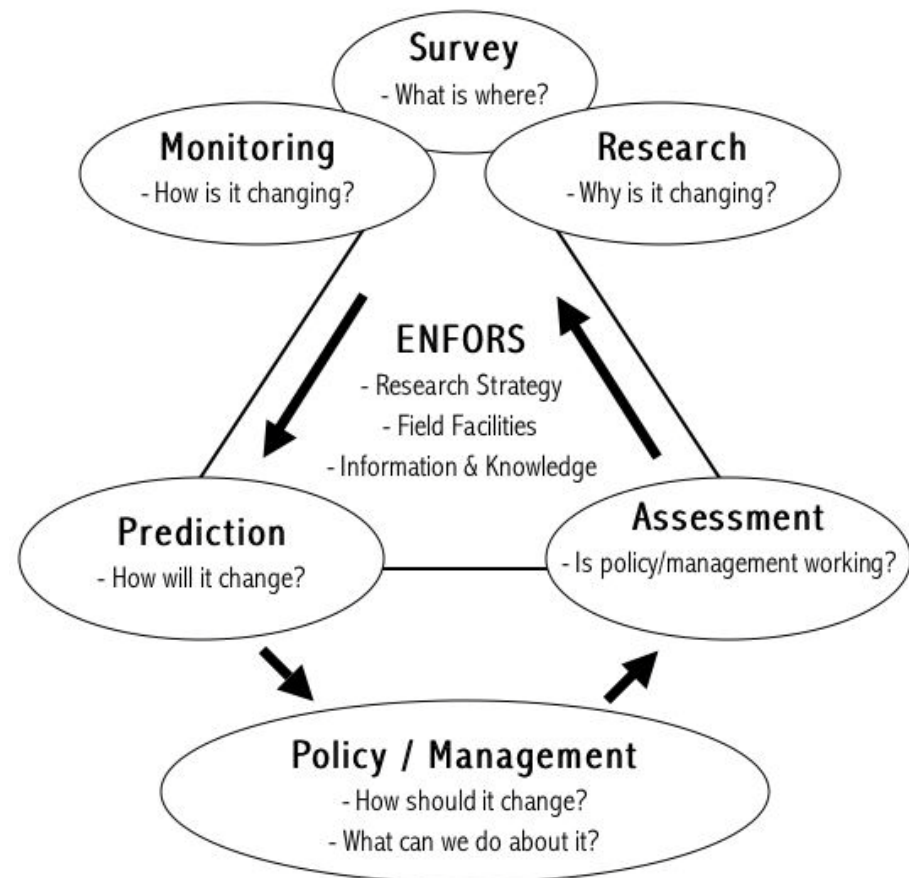




Implementation of a future ENFORS

Implementation of a future ENFORS

- increased collaboration between scientific disciplines through its research strategy,
- field arenas for implementation of approaches at the landscape level through its field facilities, and
- availability to long-term information through the development of databases and information systems that cover both traditional and new elements of SFM



Implementation of a future ENFORS

Implementation of a future ENFORS

	<i>Networking activities</i>	<i>ENFORS Field Facilities</i>	
		<i>Basic mode</i>	<i>Advanced mode</i>
<i>Survey</i>	Common policy sharing/ accessing data Data at landscape scale ENFORS Field Facilities	Access to certain survey data.	Minimum set of survey data.
<i>Monitoring</i>	Common policy sharing/ accessing data Collaboration existing programmes Recommendations complementary monitoring programming	A monitoring programme with no requirements for standardisation and harmonisation.	Standardised measurements Access to complementary monitoring data
<i>Experimental Research</i>	Maintain and improve the knowledge base Provide a forum for scientific exchange	Own research profile Guest research activities	ENFORS research programme Disciplinary research – all disciplines Transdisciplinary research
<i>Prediction</i>	Predictive models and scenarios	No requirements.	Provide data for models Local/regional predictions and scenarios.
<i>Assessment</i>	Provide and develop assessment tools A network of case studies/model forest landscapes	No requirements.	Provide a case study/model forest landscape
<i>Policy/ Management</i>	Identify the gaps between policy making, research and application	Participate to policymaking and management	Participate to policymaking and management



ENFORS Research Strategy

ENFORS Research Strategy

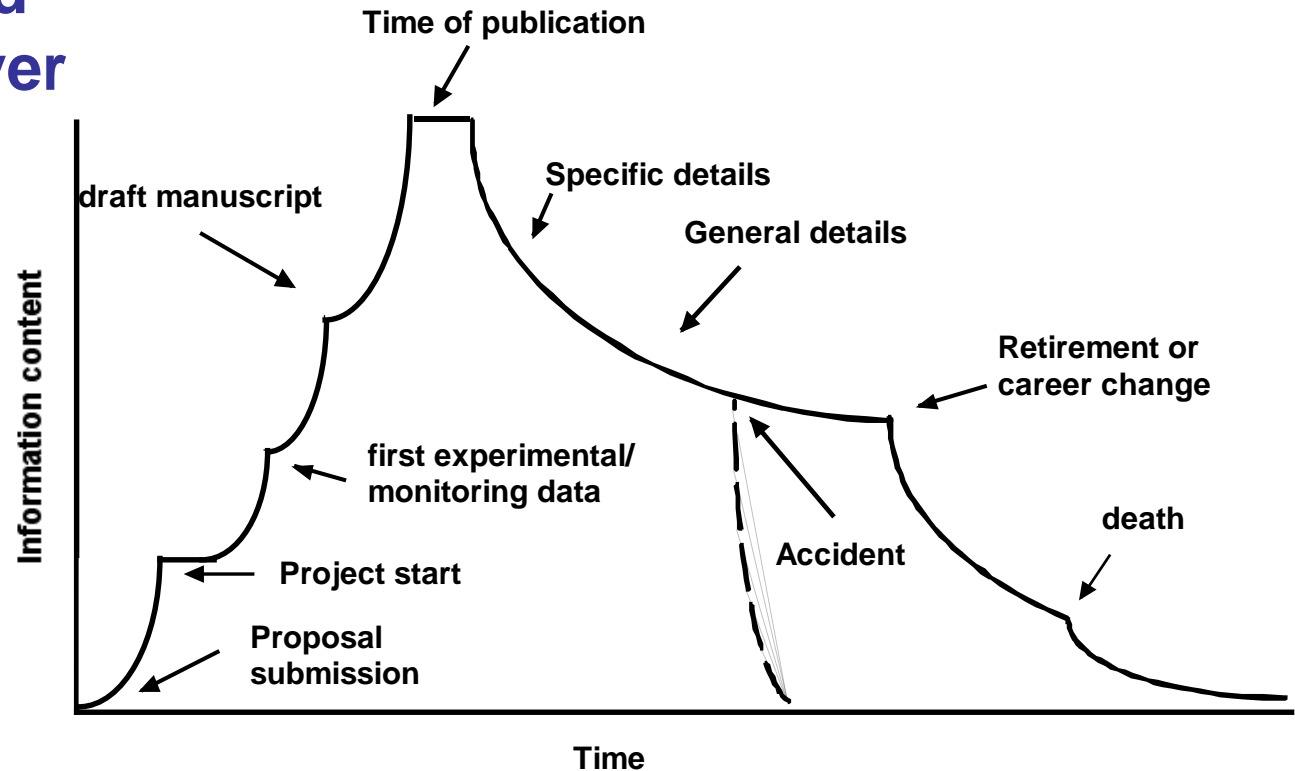
Two elements

- I. Improve the interaction between policymaking and basic research.
 - The gap or the hole
- II. Maintain and develop the knowledge base on Europe's forests and wooded landscapes.
 - The care of an inheritance



Documentation and data management

Information build-up and decay over time



(adopted from Michener et al. 1997)



Documentation and data management

Documentation and data management

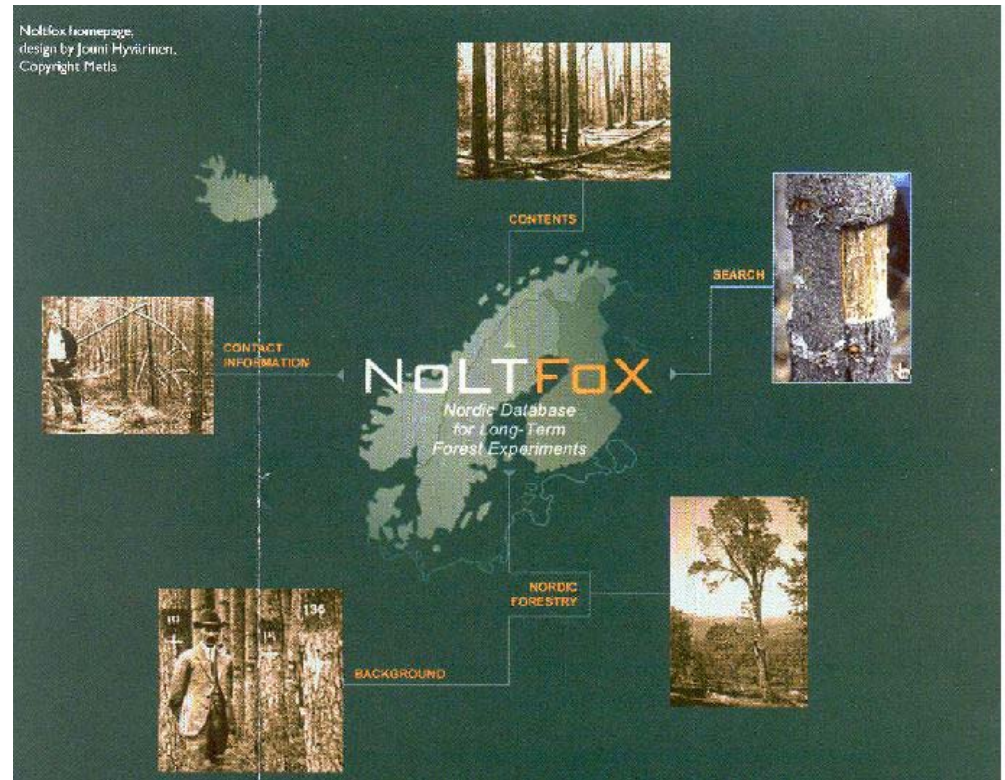
- **A meta-database**
 - containing information about nearly 300 European field research and monitoring facilities related to sustainable forestry.
- **A collection of national databases**
 - gathering and storing information at a national basis on long-term forest ecosystem and landscape research and monitoring.
- **An Information System on sustainable forestry (plans)**
 - connecting data sources for retrieving information on institutions, scientists, projects, experiments and publications.

Documentation and data management

Documentation and data management

Nordic database for Long-Term Forest experiments, NoLTFox

- Denmark
- Finland
- Iceland
- Norway
- Sweden





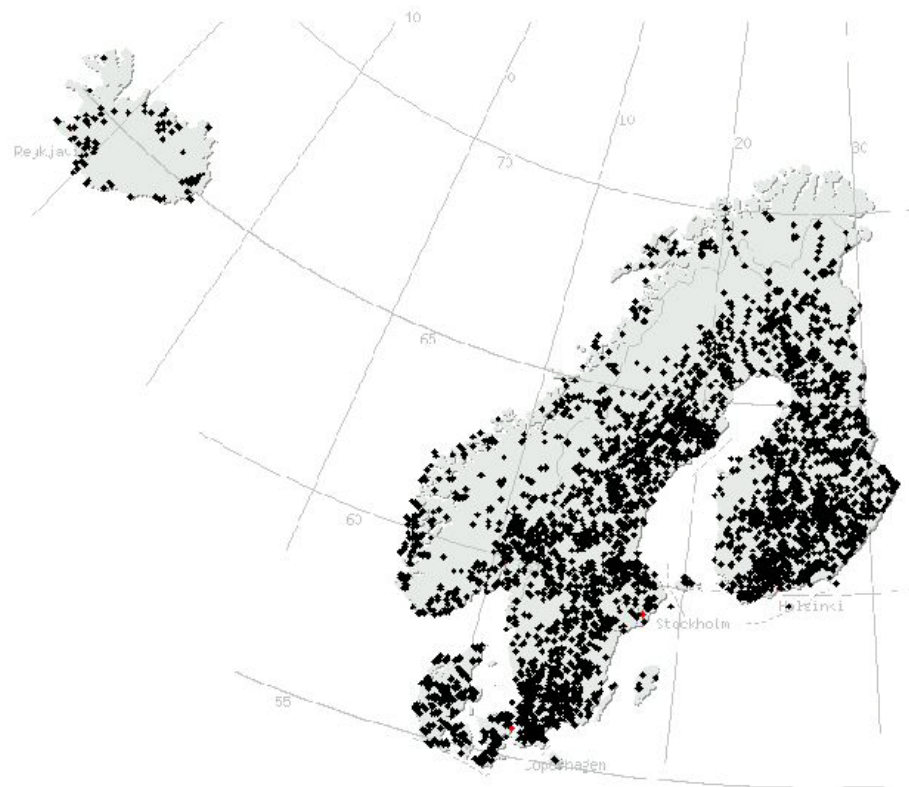
Documentation and data management

Documentation and data management

12 000 long-term forest experiments

To be extended:

- Baltic countries (Estonia, Latvia, Lithuania)**
- Literature references**





Coming events

Coming events

International symposium

Place: Malmö/Alnarp, Sweden

Date: October 17-21, 2005

Title: « European conference on the policy/science interface for sustainable management of forested landscapes »

Org: ENFORS/COST, SLU, EFI, IUFRO



A Future ENFOR

A Future ENFOR

- Participating countries expect a future
- A group representing N, W, E, S and Mountaineous Europe meets in Feb 2005 to discuss the future
- Why a continuation - interest and pressure group. Common interest in research, development and education.
- Programme and home
- Ad hoc function or permanent organisation?
- Joint activities: COST, EU Network funding, Joint projects ESF and EU



Publications

- Pathways to the wise management of forests in Europe (Führer, Andersson & Farrell 2000) - *Forest Ecology and Management Vol. 132*
- Memorandum of Understanding & Technical Annex (Andersson et al. 2000)
- Scientific issues related to sustainable forest management in an ecosystem and landscape perspective (Mårell et al. 2003) - *Technical Report 1*
- Guidelines for the national inventories of field research facilities (Mårell et al. 2004) - *Technical Report 2*
- European long-term research for sustainable forestry: Experimental and monitoring assets at the ecosystem and landscape level. Part 1: Country reports & Part 2: ENFORS Field Facilities (Mårell & Leitgeb (eds) manuscript) - *Technical Report 3 & 4*
- Towards integrated forest resource management: strategies and tools for implementation. A research strategy contributing to improved understanding of sustainability of European forests (Andersson et al. manuscript) - *Technical Report 5*
- Towards the sustainable use of Europe's forests - forest ecosystem and landscape research: scientific challenges and opportunities (Andersson, Birot and Paivinen (eds) 2004) - *Proceeding from a symposium held in Tours, France June 2003. EFI Proceedings No. 49, 2004. 323 pp.*



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Vision about the future

Vision about the future

- ENFORS serves as **a European meeting point and platform** for scientists and stakeholders promoting joint research, development of methods and training in areas relevant for sustainable forestry.
- ENFORS is **future-orientated** promoting increased interaction and integration between disciplines.
- ENFORS' Field Facilities serve as **a baseline for assessing sustainable development and environmental assessment** of Europe's forests