



Forest research in the Nordic region

🌍 The Nordic region is relatively small and sparsely populated. About 27 million people inhabit 1,138,000 km², part of it north of the Arctic Circle. Forest and other wooded land cover 56% of the region, and in Finland and Sweden this figure exceeds 75%.

Despite their cool climate, the countries have a world-leading forest industry which has helped build the wealth of the region. Sweden and Finland are number 3 and 4 in export of sawn goods, after Canada and Russia. Taking export of pulp, paper and sawn goods together, Sweden is the world's second largest wood product exporter. In Finland, over 20% of export revenue comes from the forest industry. Science contributes to the success of the Nordic forest sector. This brochure gives a glimpse into some institutes and universities responsible for forest research. Many more could of course have been listed; forest research is a broad field.



Norway

■ Norway is a mountainous country with a long coastline. Fishing and the oil industry are the best-known commercial sectors for most outsiders. However, Norway is also a forestry country, with 12 million hectares of forest land. Eighty percent of the forest is owned by private individuals, a higher share than in other Nordic countries.

Norwegian Institute of Bioeconomy Research (NIBIO)

NIBIO is responsible for research into food security and sustainable resource manage-

ment. The Division of Forestry and Forest Resources studies a wide range of topics such as tree breeding, forest inventory, wood technology and climate mitigation.

www.nibio.no

Norwegian University of Life Sciences (NMBU)

The Faculty of Environmental Sciences and Natural Resource Management (MINA) works with nature, the environment and sustainable use of natural resources. The faculty has about 200 employees and several research groups engaged in forest sciences.

www.nmbu.no

Iceland

■ When the first settlers reached Iceland in the 9th century, 25-40% of the land was wooded, mostly with downy birch. The woodland was quickly depleted by clearcutting, burning and sheep grazing. Now, forest is slowly recovering due to ambitious planting programs.

Some of the first plantations have already been harvested.

Icelandic Forest Research

Icelandic Forest Research is a division of the Icelandic Forest Service.

Located in Mogilsa near Reykjavik, it

studies applied silviculture, growth and yield, as well as ecology and tree breeding.

www.skogur.is

Agricultural University of Iceland

This educational and research institution focuses on agriculture and environmental sciences. Forestry is one branch, and began offering degree programs in 2004. Previously foresters had to be trained abroad.

www.lbhi.is

Denmark

■ In terms of forest production, Denmark is the "little brother" among the Nordic countries. Unlike its Nordic neighbors, Denmark is entirely within the central European temperate forest zone. Half of the forests is composed of conifers and half of broadleaves.

University of Copenhagen

The research, education and outreach within forestry, wood science, urbanism, landscape architecture and planning is collected by University of Copenhagen, mainly at two departments: Geosciences and Natural Resource Management and Food and Resource Economics.

www.ign.ku.dk

www.ifro.ku.dk

Finland

■ At three quarters of forest cover, Finland is Europe's most wooded country. It is also one of the world's most northern countries. Finland relies more heavily on its forest than any other country.

Natural Resources Institute Finland (Luke)

Luke was formed from a merger between the former Finnish Forest Research Institute (Metla) and three other institutes. Luke has a broad mission to provide sustainable development solutions for the Finnish bioeconomy. Luke also carries out statutory government work, such as monitoring natural resources, storing genetic resources and producing statistics.

www.luke.fi

University of Eastern Finland (UEF)

Headquartered in Joensuu in the eastern region of Karelia, UEF was formed in 2010 from the merger of two universities. The Faculty of Science and Forestry is one of four faculties and has 560 staff members and 63 professors.

www.uef.fi

University of Helsinki

Globally, the Department of Forest Sciences is the highest-ranked unit at the University of Helsinki. Its multidisciplinary activities aim to advance the ecologically, economically and socially sustainable use of forests and peatland.

www.helsinki.fi

Sweden

■ Forests play a more important role in Sweden than in any other European country except Finland. Forestry accounts for 9-12% of the turnover, employment, export and value added in Swedish industry. Almost 90% of pulp and paper, and 70% of sawn goods, are exported.

The Forestry Research Institute of Sweden, Skogforsk

Skogforsk carries out applied research in a variety of fields: wood utilization, technology, logistics, forest bioenergy, tree breeding, silviculture and environment. Skogforsk is financed jointly by the government and the forest sector.

www.skogforsk.se

Swedish University of Agricultural Sciences (SLU)

SLU is the main actor in forestry research and education. The Faculty of Forest Sciences is among the biggest in Europe. The faculty is headquartered in Umeå, with additional research and education in Uppsala, Skinnkatteberg and Alnarp.

www.slu.se

Linnaeus university

Forestry and wood utilization are important research fields at Linnaeus University in Växjö, in southern Sweden. The Department of Forestry and Wood Technology performs research in close collaboration with the forest sector and wood industry.

www.lnu.se

Nordic forests in figures

	Forest and other wooded land, million ha	Forested % of land area	Forests available for wood supply, million ha	Growing stock in forests available for wood supply, million m ³	Roundwood production, million m ³ over bark
Denmark	0.66	15	0.57	116	3.5
Finland	23.0	76	19.5	2 099	61.4
Iceland	0.19	2	0.03	0,3	-
Norway	14.1	46	8.3	1 033	12.0
Sweden	30.5	75	19.8	2 390	81.0

Source: Eurostat, Agriculture, forestry and fishery statistics 2018

The largest wooded area in Europe

Over 2 billion cubic meters available

Norway

100 years of national forest inventory

■ The world's first national forest inventory began in Norway in 1919. Since then, Norway's growing stock has increased three-fold, from 300 to 900 million m³. National forest inventories also have strong positions in Sweden and Finland. The statistics support decisions for a variety of purposes such as environmental monitoring and planning of multiple-use forest management.

www.nibio.no

Finland

Towards climate-neutral bioeconomy

■ The FORBIO project will provide solutions and tools for smart decision making in the forest bioeconomy. The project will study how current management should be modified to increase forest biomass production and mitigate climate change. Climate-smart forestry stores carbon and replaces fossil hydrocarbons, with an option to reduce climate impact from European forests by 20%.

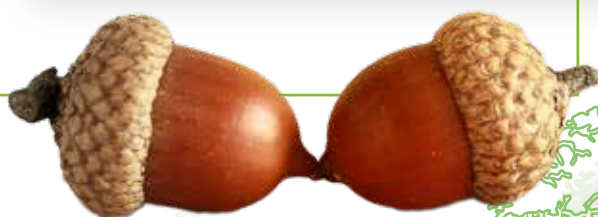
www.uef.fi/en/web/forbio/

Iceland

Resistance to poplar rust

■ Poplar is one of several tree species used for afforestation in Iceland. The fast-growing black cottonwood has potential for forestry in Iceland, the Faroe Islands and Greenland. However, the genetic material must be robust and resistant to diseases. In a trans-Nordic project, poplar clones with high growth capacity, straighter stems and better resistance to poplar leaf rust will be selected.

www.nordicforestresearch.org



Denmark

Modification makes wood durable

■ Modified wood is treated with environmentally-friendly techniques to exclude moisture and repel fungal attacks without poisonous preservatives. Research conducted at the Danish Technological Institute shows that several modification methods can be used. If moisture content is kept below 25%, the risk of decay and fungal deterioration is minimal.

<https://videnskab.dk>

Sweden

Future Forests – interdisciplinary in practice

■ In the Future Forests program, researchers specialized in silviculture, ecology, biogeochemistry, forest policy and governance, sociology and the history of ideas work side by side with stakeholders to solve complex forest problems. Examples of outcomes from the program are future scenarios, historical reviews and research on complex issues such as value conflicts, dialogue processes and actions to mitigate climate change.

www.futureforests.se



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