



The fire in Ljusdal, central Sweden, in 2018. Photo: Anders Granström, SLU (pressbild).

The burning hot summer of 2018

Bush- and forest fires are an oft-repeated phenomenon in southern Europe, but the summer of 2018 will be remembered also for the huge fires in Scandinavia. A long warm and dry period made most of the region vulnerable to ignition, and to date about 25,000 hectares have burnt in Sweden alone. Fire fighters from all over Europe have helped the Swedish teams to combat the disaster.

Norway has also experienced an extremely high fire risk in southern areas, and in mid July over 100 fires were burning. Finland as well has had its share of fires, some of which resulted in homes being evacuated. It has been reported that some fires in the northern part of the country spread over the border from Russia.

Scandinavia has faced one of the hottest summers in history. Statistics

for the whole summer are not complete at the time of writing, but it is clear that records have been broken by a significant margin. July was, in many places, the warmest in Sweden since records began, which was, for example, 1756 in Stockholm. Finland reports a long-term heatwave, with the warmest July ever in Lapland. Norway has also suffered from high temperatures, and even most northern parts (70°N) experienced tropical nights in July 2018 (when the temperature all night exceeds 20°C).

The largest fire in Sweden in modern times

The Västmanland fire in 2014 was internationally acknowledged for its size and

intensity. It was by then the largest fire in modern times, destroying almost 14,000 hectares of forest. In 2018, large fires have spread over more areas. The largest occurred in Jämtland county, in the municipality of Ljusdal, in Älvdalen in the county of Dalarna and in Västernorrland county. In mid July, the fires affected some 25,000 hectares, of which the four largest covered an area totalling 20,000 hectares.



Temperatures in Scandinavia 26 July 2018. From www.yr.no.

Burning hot, cont.

Sweden requested emergency assistance from its partners in the European Union. Italy sent two large planes, able to dump 6,000 litres of water in each run. Other countries provided support in the form of helicopters and airplanes, and Germany and Poland sent firefighters to combat the blaze on the ground.

More fires in old times

Is the extent of the fire extreme? The 25,000 hectares that have burnt in 2018 amounts to about 0.1% of the forest area in Sweden. More than 200 years ago, forest fires were much more common in the Swedish forest. Every year, about one percent of the forest was burnt, i.e. 250,000 hectares.

Fire history can roughly be divided into three periods. From pre-historic times until the 17th century, large but relatively few fires occurred. In the subsequent 200 years, until the mid 19th century, people were settling in the forest, and their activities caused more but smaller fires.

With the modern forest industry, fires were more or less wiped out.

Fires were fought, and the fuel in the forest was harvested instead of being burnt. The network of forest roads has also helped to combat fires at an earlier stage.

In the last 20 years (before 2018), on average 1,900 hectares burnt each year (the Västmanland fire included), and in the period 1955-1979 3,550 hectares burnt annually in Sweden.

Normal in natural forests

Fire was a natural component in the dynamics of the northern, boreal forest long before humans started to interfere. Boreal regions with much natural forest suffer regularly from wildfires. In Canada, wildfires consumes an average of 2.5 million hectares per year. Official statistics from Russia have been shown to be unreliable, but satellite analyses give estimates of an average of

9.3 million hectares burnt each year during the period 1996-2005.

In areas with modern forestry, fires are almost exclusively the result of accidental human ignition (a cigarette, sparks from steel wheels, camp fires etc.). In remote areas in Canada and Siberia, lightning is the main cause of fires.

Read more: www.slu.se, search for "brand" and read the researchers answers to common questions about wildfires.



Forest fire in Sweden. Photo: Anders Granström, SLU (pressbild).

Lookout station takes the viewer inside the stories

The Lookout360° is a pilot project run jointly by the European Forest Institute and the Global Editors Network (GEN). The idea is to inform viewers about climate change in a realistic way by presenting stories in spectacular 360° video format, where the observer can move freely within the film.

Journalists and producers from twelve media houses worldwide participated in February 2018 in a boot camp in northern Finland. The camp offered training on climate change storytelling as well as a crash course on how to produce 360° video films. The films produced were later presented at the GEN Summit 2018 in Lisboa.

Why use 360° videos instead of traditional film? One of the producers was interviewed by the Lookout project - Viktorija Mickute who made the film The Disappearing Oasis. She said: *“Rather than being detached observers, using virtual reality, viewers have an opportunity to 'step into' the story and see it with their own eyes. Often, important stories, especially the ones on climate change, unfold in remote and difficult to reach areas. The VR technology transports viewers so that they can see the location, witness the processes there and meet people whose lives are*

affected. This gives viewers a deeper understanding of the issue.”

See many of the stories on the Lookout station webpage: <https://thelookoutstation.com/projects/lookout360deg-6-month-climate-change-immersive-story-accelerator>



One of the 360° films shows how the oak landscape in Spain, known as Dehea, is disappearing, and it also explains the causes. The film can be found on the Lookout station webpage.

Perspectives: Nordic bioeconomy – full of potential

News & Views No 6, 2018, reported that the Nordic Ministers' meeting in Haparanda adopted a new strategy for the Nordic bioeconomy. Liisa Saarenmaa, member of the SNS board, presents some thoughts about the topic.

By Liisa Saarenmaa

A strategic programme for the Nordic bioeconomy can serve as a good example to the world – the Nordic countries are able to demonstrate best practices!

The Nordic Council of Ministers convened the Nordic Bioeconomy Panel in 2014 under an Icelandic chair, and commissioned it to draw up a strategic programme for the Nordic bioeconomy. The ministers meeting in Haparanda/Torneå officially launched the programme on June 27, 2018.

The Nordic countries have a rich biocapacity: 30% of Europe's forest production and more than 50% of Europe's total marine harvest comes from the Nordic region. All Nordic countries also have other bioeconomic strengths. They have competitive bio-based industries, sustainable resource management and resilient and diverse ecosystems which pave the way for inclusive economic development.

Rural regions are the key

Rural regions have a key role to play in the Nordic bioeconomy as the location of bio-resources like forests, agriculture and fisheries. The bioeconomy can help Nordic countries develop their peripheral areas. A growing bioeconomy requires a well-educated and skilful workforce, helping maintain the population of rural regions. It is also crucial that primary producers get their fair share of the bioeconomic value chains.

Global challenges like rapid population growth and climate change affect the bioeconomy. The shift from a fossil-based to a bio-based economy will reduce the world's dependence on non-renewable resources.



Liisa Saarenmaa with tall oil and viscose, products from the forest and some of the bases for new bio-products. Photo: Mats Hannerz.

The EU aims to be a carbon neutral society by 2050. The Nordic countries are frontrunners in that endeavour, and can demonstrate best practices for other parts of the world.

Best cases

The Nordic Council of Ministers compiled 25 case studies of sustainable bioeconomic change in

2017. The motto of the paper is “*The times they are a-changin’*”, after the song by Bob Dylan. The starting point for the case studies was the 17 sustainable development goals in the UN’s Agenda 2030. The report presented Nordic best practices under four themes: replace, upgrade, circulate and collaborate.

The cases were evaluated on the basis of five criteria: (1) sustainable use of natural resources, (2) technological innovation, (3) environmental benefits, (4) social benefits, and (5) business model innovation.

Out-of-the-box thinking is needed to envision a more sustainable and holistic use of agriculture, forestry and fishery resources and industrial symbiosis.

The Nordic Bioeconomy Panel emphasizes that the key to the development of the bioeconomy is improving resource efficiency by unlocking the full potential of biomass. Thus, it is important to recognise bio-based value chains, and focus R&D funding on activities which create value-added products from the Nordic bio-resources.

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SNS Perspective is an arena for the SNS board members to share their knowledge, give their opinions based on their insights in the forest sector and an opportunity for people to debate forest related issues. The perspectives are published on SNS's website:

<http://nordicforestresearch.org/sns-perspective/>

Norwegian book explains the forest to non-foresters

Lars Sandved Dalen, a long-time contributor to the SNS-supported network for Nordic communicators, is one of the authors behind a new book explaining the mysteries and fascination of the forest.

Den fantastiske skogen (The Fantastic Forest) is a book about the whole ecosystem, not just the trees. Special emphasis is placed on the important function of fungi, and the “wood wide web”. Blueberry, a key species in the boreal forest, is featured, with many interesting facts, as are flowers and insects of the forest.

– It is a pleasure to convey the wonderful life that hides in the woods, both in the tree crowns and belowground. Through my job at NIBIO, I have been involved in dissemination of forest knowledge for almost 25 years. Much of the content of the book is material that NIBIO researchers have contributed, and I have been fortunate to write about it, he says on the NIBIO webpage.

The target groups for the book are preschool teachers, other teachers and



Lars Sandved Dalen, communication adviser at NIBIO and author of *Den fantastiske skogen*.
Photo: Elisabeth Molteberg.

people who enjoy going to visit the forest with children. Much of what they will see can be explained with a story, thereby enriching the forest visit.

After reading the book, the visitor will notice traces of old human activities, or know which plants to collect for food or medicine.

The book is written by Lars Sandved Dalen together with his former co-worker John Yngvar Larsson.

Uneven-aged forestry on film

A new film has been released by Skogforsk in collaboration with SLU (Future Forests). “*Hyggesfritt*” (Clear-cut free) is a 27 minute film explaining the methods employed to manage the boreal forest without creating large clearcuts.

Three main methods are described: Selective cutting (*blädning*), shelterwoods with pine, and group selection. The challenges in converting an even-aged forest to an uneven-aged one are also described. The film shows forest owners, contractors and researchers who all have



experience of forestry without clearcuts. It is produced by Heurgren Film AB.

The film is free on Youtube and Skogforsk's channel www.skogskunskap.se.

Shortcuts

Norway: Drastic expansion of wild boar

The population of wild boars in Norway will likely double each third year. A new report from The Norwegian Scientific Committee for Food and Environment warns for the environmental implication of an uncontrolled expansion of the species, which is classified as alien in Norway. Currently, about 1,000 wild boars dwell in Norway, but the committee estimates that the population can grow to 40,000 in 12-15 years from now.

Read more: www.vkm.no

Finland: Timo Karjalainen in memoriam

The highly reputed Professor Timo Karjalainen passed away in July 2018 due to serious illness. Karjalainen worked as a professor of international forestry, jointly at the Natural Resources Institute Finland Luke and the University of Eastern Finland.

Read more: www.luke.fi

Sweden: Prize to gender report

An article about how men in the forest sector understand, create meaning and show resistance to equality interventions was prized as The 2017 year international publication. The article was authored by researchers at SLU in Umeå and Luleå Technical University.

Johansson et al. 2017. The discursive resistance of men to gender equality interventions: negotiating 'unjustness' and 'unnecessity' in Swedish forestry". Men and Masculinities.

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More info about SNS:

www.nordicforestresearch.org

News & Views is a newsletter from SNS containing short, popularized articles covering Nordic forest research and forestry. Articles presenting SNS-supported activities are prioritized. The newsletter is published eight times per year, and is available for download from the SNS and Scandinavian Journal of Forest Research websites.



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