

Abstract template for the conference “A century of national forest inventories – informing past, present and future decisions”

Dear author. This is a two-page template that in the first page will ask for information on presenter name, topic, and preferred presentation form.

On page two, you are asked to fill in your abstract in the format and font size indicated. Please remember to include authors affiliation information in the footer section of page two. The length of the abstract may not be more than one page including references.

Abstract title:		Half-century Development of National Forest Inventory in Lithuania
Take-home message:		<i>The presentation is dedicated for the development of National Forest Inventory in Lithuania. 2018 marks the 50th anniversary taking into account all attempts to develop LT NFI system and 20th anniversary of the continuous NFI history.</i>
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General topic, see website: <small>(please double click on the check box and activate the relevant one)</small>	<input checked="" type="checkbox"/>	Improving future NFIs by learning from the past
	<input type="checkbox"/>	NFIs today and in the future
	<input type="checkbox"/>	Cutting edge and futuristic inventory techniques and technologies
Preferred presentation form:	<input type="checkbox"/>	Oral presentation
	<input checked="" type="checkbox"/>	Poster
<p><i>Abstracts will be reviewed by members of our scientific committee and you will be given information on decisions in due time after the submission deadline has passed.</i></p>		

Half-century Development of National Forest Inventory in Lithuania

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Need of more detail and precise information, especially on total yield and its use, was the main reason to start the development of large-scale forest inventory by sampling method in Lithuania. Historically, the large-scale statistical forest inventory implementation can be divided into three different stages according to their impact on National forest inventory (NFI) development.

I stage. First attempts to start NFI were done in 1969 (Kuliešis, 1971) on the area of 1.48 mill. ha on state forests (77% of all country forests). Due to some economic and political reasons this inventory did not become continuous. As a result of analysis on sampling data of this inventory and data from two other pilot study areas (established during second stage), main models and standards for NFI data processing (including yield model for stand site index estimation) as well as yield parameters for stand level forest inventory were elaborated and tested (Kuliešis, 1993).

II stage. Development of NFI design and data processing system was continued in Dubrava forest (5 thous. ha area located in the central part of the country) by establishing 188 permanent plots in 1976. These plots were remeasured every 5 year, 8 times altogether, estimating forest management efficiency on large area forest management unit (Kulbokas et al., 2018). Also, this large-scale area was used for estimation of efficiency of angle count and circular plots, plots with fixed number of trees, GPS tests under the forest cover, elaboration of models for estimation of radial increment, diameter and height ratio for every tree in case of small samples (Kuliešis, 1993). The second stage was completed by pilot forest inventory in other large-scale area optimising the sampling design for Lithuanian NFI, testing special data software and modern measurement devices supplied by SIDA support project (Kasperavičius, Kuliešis, 2002; Kuliešis et al., 2016).

III stage. Development of NFI system. During the first cycle (1998-2002) of continuous 5-year inventory 5,600 permanent plots were established on whole country forest area (Kuliešis et al., 2010). Up to day three successive cycles (2003-2007, 2008-2012 and 2013-2017) have been executed remeasuring all plots in country forests. From 2012 inventory was expanded to all land use categories, measuring all 16,258 permanent plots. The main actions directed to the development and expansion of functionality of NFI during 1998 – 2017 are: i) implementation of GPS and field computers for data collection; ii) harmonisation of models and methodical decisions for data processing; iii) integration of regional I level ICP-forest monitoring into network of NFI permanent plots; iv) improvements of stand level forest inventory; v) implementation of NFI principles for mature stand inventory; vi) starting the international reporting (UNECE, FAO, UNFCCC, EC), involving into ENFIN and other projects; vii) the use of NFI for large scale damage estimation (2010); viii) land-use change monitoring and wood resource estimation outside forest (from 2012); GHG assessment in “Land use, Land use change and forestry” (LULUCF) sector.

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