

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.

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|---|-------------------------------------|---|
| Abstract title: | | The French NFI : flexibility at the heart of the design |
| Take-home message: | | The French NFI has greatly evolved in recent years. The changes have been driven by the need to have a new tool, more responsive and flexible, able to respond faster and better, in case of extreme events for instance. |
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| General topic, see website: (please double click on the check box and activate the relevant one) | <input type="checkbox"/> | Improving future NFIs by learning from the past |
| | <input checked="" type="checkbox"/> | NFIs today and in the future |
| | <input type="checkbox"/> | Cutting edge and futuristic inventory techniques and technologies |
| Preferred presentation form: | <input checked="" type="checkbox"/> | Oral presentation |
| | <input type="checkbox"/> | Poster |
| <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> | | |

The French NFI : flexibility at the heart of the design

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Introduction:

The growing demands of society on forests have pushed forward NFIs who had to evolve and adapt over time. However, in a context of forests being at the center of many challenges, reactivated by global changes, this adaptation has been particularly accelerated in recent years. The demands now comes from a broader public (national/international policy makers, industries, environmental organisations, research, people) who is seeking for more information, more precise and easily accessible.

In order to respond to these demands, some NFIs are moving from a knowledge tool on forests to a somehow environmental monitoring system. These renewed inventories must be able to easily integrate new (diverse) needs and to be reactive in case of dramatic perturbations (fires, storms, massive dieback).

In this context, NFIs must be powerful, responsive and easily adaptable tools. This involves a change in their design, from the sampling plan, to the provision of baseline information through revised estimation techniques using more and more auxiliary information, often derived from remote sensing.

The purpose of the communication is to present the innovations implemented or under development in the French inventory to adapt a quite old (now 60 years) tool to this new context.

Materials and methods:

The communication will present the recent changes in the French NFI :

- sampling design (continuous inventory);
- estimators and the use of external data thanks to post-stratification.

Results:

We will insist on the search for flexibility of the French NFI design and the information system actually developed :

- On the fly production of results via specific tools;
- Easy addition, combination of new variables;
- Improvement of estimates thanks to new data via post-stratification (DHM);
- Derivation of the national tool to specific case (regional) studies : on demand inventories.
- Reactivity after events like storms.

Conclusion:

A NFI is a work in progress, always evolving to address new needs, gain more precision, a finest resolution... at constant or decreasing costs. New solutions have to be found, new auxiliary data have to be mobilised in order to answer the multiple demands. Achieving that necessitate to find or form the future engineers and researchers who will build the next generation of NFIs. This question is crucial in a domain where human resources are rare.

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