

Colloque Forêts en transitions

Concepts, méthodes, mesures et perspectives

Forests in transitions

Concepts, methods, assessments
and prospective

Tours, 18-19 juin 2024

Call for papers

International and interdisciplinary symposium

Forests in transitions Concepts, methods, assessments and prospective

June 18-19, 2024, Tours (France)

<https://forests.sciencesconf.org/?forward-action=index&forward-controller=index&lang=en>

This international and interdisciplinary symposium encourage to focus on forests, in all their diversity, multidimensionality and multifunctionality. More specifically, it aims to examine the transitions that affect these forests, examining concepts, methods and assessments of these transitions, their causes and consequences, and adopting also a prospective approach.

The call for papers is therefore open to **researchers from a wide range of disciplines**, from the **life and earth sciences** to the **human and social sciences**. Although not obligatory, proposals based on interdisciplinary or even transdisciplinary research will be particularly welcome. Indeed, even if specific research is necessary to study certain points in greater depth, we feel that it is essential at times to combine the views of researchers from different disciplines on these complex ecosystems that are forests, all the more so in view of their multifunctional nature: spaces for recreation, sometimes sacred, for preserving biodiversity, for producing timber and other non-timber forest products... Society's expectations are numerous.

Inter/transdisciplinary research is all the more relevant when it comes to questioning **current transitions** and imagining the **forests of tomorrow**. This is the approach we have adopted for the Plantaclim project (financed by the Centre-Val de Loire Region and led by UMR CITERES¹), which, according to its title, aims to “Maximize the services of forest (re)plantations in the context of climate change”. This international and interdisciplinary symposium is organized within the framework of this project.

¹ For more information, visit the project website: <https://plantaclim.univ-tours.fr/> (in French).



Our aim is to broaden the scope of our discussions beyond forest plantations, which are highly anthropized ecosystems, and **not to restrict to the issue of climate change**: even though climate change is becoming increasingly significant, we must not forget the other questions and issues that arise with regard to **the existence and management of forests, whatever their nature: planted or spontaneous, but also urban or rural, or even temperate, tropical, boreal...** In order to broaden the scope of discussions, we are therefore looking for proposals from different areas, beyond metropolitan France.

Rationale

In a general sense, the term transition refers to “the passage from one state to another” (Larousse and Le Robert dictionaries², transl.). However, it is “multifaceted” and, even “in reference to the environment, [it] has several meanings” (Doyon and Bougue, 2022, transl.). In their dictionary of ecological thought (*Dictionnaire de la pensée écologique*, transl.), D. Bourg & A. Papaux (eds., 2015, transl.) specify that transition is “a process of transformation during which a system moves from one regime of equilibrium to another”. The term can therefore be used to characterize **the mutations affecting forest ecosystems, at a time when forests appear to be “in crisis”** (Ateliers ReGeFor 2020, 2023, transl.), when a profound transformation of forest landscapes is expected (new species, boom in forest plantations), a “change of scenery”³, moreover already at work (diebacks, patches of future forests – *îlots d’avenir* – in France), **under the effect of climate change, in connection with or in reaction to this change**, as part of mitigation and/or adaptation strategies. In connection with this change, fires, storms and other damaging extreme climatic events increase. This “crisis” thus appears as a threat to forests, but it can also be an opportunity, for stakeholders as much as biodiversity (Bouget, Cours & Sallé, 2023). It is important, however, not to focus on this single factor of change, even though it gives rise to uncertainties and often – justified – fears about the future of forests. **Other factors need to be taken into account, such as the “greening” of society**, which, along with climate change, may lead to a certain rethinking of the forestry-wood sector (Robert & Boughedada, 2023); among other things, the “industrialization of forests” is denounced, and the clear-cutting is decried, which should be linked with the emphasis on other ecosystem services associated with forests (carbon sequestration, quality of life and well-being, etc.). Forests are also faced with **other pressures that have arisen in the Anthropocene era**, especially since the Great Acceleration (McNeill & Engelke, 2016), and that are described as global:

“In French, the expression has gradually slipped into a broader sense to designate all the changes imprinted on ecosystems by anthropization, within the more general framework of the advent of an Anthropocene, a geological era in which human societies irreversibly transform their environment” (Géoconfluences, 2023, transl.).

Biodiversity is being eroded. Invasive species, often introduced – such as *Prunus serotina* in France (Javelle, Kalaora & Decocq, 2010) or Australian acacias including *Acacia mangium* in some countries like South Africa (Koutika & Richardson, 2019), yet planted over vast areas in others like Vietnam (Amat, Phung Tuu, Robert & Trân Huu, 2010) – are multiplying. Deforestation continues – even where total forest area is increasing thanks to plantations (as in Vietnam: Tran Quoc *et al.*, 2023).

² Larousse : <https://www.larousse.fr/dictionnaires/francais/transition/79157> ; Le Robert : <https://dictionnaire.lerobert.com/definition/transition>, accessed 08/26/ 2023.

³ « En forêt, changement de décor » [In forest, change of scenery]: comments by A. Robert, collected by E. Boutheloup, <https://www.magcentre.fr/251698-en-foret-changement-de-decor/>, accessed 26/08/2023.

When associated with forests, the term “transition” can also refer more specifically to the **concept of “forest transition”** (or forest-area transition) proposed by A. S. Mather in 1992: “the change from decreasing to expanding forest areas that has taken place in many developed countries”. As he predicted, the process soon spread, affecting other countries around the world, particularly tropical ones such as Vietnam (Meyfroidt & Lambin, 2008), knowing that “other forest transitions exist in Tropical Asia and in Latin America” (*ibid.*). Thus, ““forest transitions”^[4] have recently received much attention” (Kull, 2017), but they require to question in particular what we mean by “forest”, paying attention to its various processes, social as much as ecological (*ibid.*). In the forest expansion phase of this transition, forest plantations, alongside secondary forests, occupy an increasing place (Mather, 1992), and this applies in particular to “exotic plantations” (Kull, 2017). The study of these “forest transitions” places us on a longer time scale. Proposals based on the analysis of past mutations will therefore be welcome, insofar as they aim to better understand current and future forest dynamics. We could ask to what extent climate change is influencing forestry transitions in countries where they are still underway, and whether it is placing countries where they have been completed on the edge of a new transition.

Today, the term “transition” is finally understood in a sense that is actually inherited from R. Hopkins, in his book *The Transition Handbook From Oil Dependency to Local Resilience* (2008): he proposes a plan for energy degrowth. The origin is thus “more activist and more radical”, as underlined by C. Larrère (2021, transl.). This author considers that “transition” is a “vague and polysemous” word, but offers many “advantages” “for characterizing social change”, seeing in it an opportunity “to envisage the continuity of a process initiated within natural processes and which continues in the social environment”. The term here refers to **the transition described as ecological, environmental or energetic**. In this sense, it is not “an observed change, in progress or completed, that we attempt to model more or less formally, to better understand its dynamics” – as for the previous meanings – but is understood as “a societal project, embodied in public policies, whether these policies are transversal (as in territorial or ecological transitions) or sectoral (energy or agri-food transitions, for example)” (Gonin, 2021, transl.). In this framework, we find measures, which are put in place in response to climate change, or even global changes, to mitigate or adapt to these changes. The term is in fact used to replace the one of sustainable development. This will raise questions about the influence of these societal projects on forests, the services they provide, the representations associated with them, their management, characteristics and dynamics. In this instance, how can we reconcile the different expectations placed on forests: the development of bioeconomy to meet demand for wood energy and bio-based materials, increase of carbon sequestration and storage, preservation of biodiversity and development of recreational activities?

To question these transitions affecting forests, in their current and future dynamics, three axes are envisaged:

Axis 1: Concepts and methods

What concepts and methods should be favored for interdisciplinary approaches to forests and forest dynamics? Which concepts and methods can be used to renew research in the current context of accelerating climate change?

⁴ The forms and timing of forest transition can vary according to country, hence the use of the plural.

Is the theory of forest transition still relevant? In the countries that have completed this transition, have the sylvosystems reached “equilibrium”? Is this not being called into question by climate change? How can such a regime be identified? Beyond that, is the concept of transition appropriate to describe the current and future changes brought about by climate change and, more broadly, global changes?

We will also look at transition in relation to other concepts such as sustainable development and ecosystem services. To what extent are these concepts used by researchers from different disciplines, and even by territorial stakeholders? Do they allow for an interdisciplinary approach to forests? Are they thus conducive to the study of forest mutations, including with a view to the future?

What methods need to be deployed to better characterize forests and the transitions affecting them? What are the innovative methods? What can high spatial and spectral resolution images, LiDAR data and ground sensors contribute? What about survey methods in human and social sciences, which aim at freeing up respondent’s voices and encouraging discussion? Do the current and future changes require new methods?

Axis 2: Assessments and analysis

What are the characteristics of today’s forests, and what are the indicators that a transition is underway? What is its scope? What are the drivers? To what extent is climate change creating new issues and dynamics? What about the other change factors mentioned above? How do they combine? Are we on the edge of a new forestry transition?

A longer time-scale may be required. Therefore, what are the most relevant time steps? What are the rhythms of transitions? What were the phases of crisis and resilience, and how can they be explained? Are they repeated in time and/or space, and to what extent do they provide a better understanding of current changes?

What changes are underway, in terms of biodiversity, soil, water, climate, practices and representations, or more broadly, ecosystem services? What is the extent of forest dieback and what are its local causes? *A contrario*, what damage do invasive exotic species cause?

To what extent are today’s forests threatened, in “crisis”? What are these threats and what are their impacts? Which forests are under the greatest pressure? Are they still tropical forests, plagued by deforestation? What about urban forests? Are there more resilient forests, and if so, what are they? What mechanisms can we put in place to preserve threatened forests: payments for environmental services, carbon market, protected areas, (trans)plantation, etc.?

To what extent are current transitions opportunities, and under what conditions? To what extent do forests help mitigate climate change? What dynamics does this generate: does it contribute to the preservation and/or expansion of forests; and, in this case, what kind of forests?

How is the forest-wood sector taking these characteristics and possible changes into account? How do territorial stakeholders, forest-wood sector stakeholders and local residents view forests? How do they perceive current transitions, and what representations do they associate with them? What expectations do they have of forests?

Axis 3: Prospective

What changes can we expect? What are the bases for imagining the forests of tomorrow? To what extent can we learn from the past?

In France, the ONF (*Office national des forêts*: national forestry office, in charge of public forest management) has created patches of future forests – *îlots d’avenir* – to “identify the

species that will be able to withstand hotter and drier climates in the future”⁵. Are there similar initiatives elsewhere in the world? Are other approaches being tested? What are the initial results, and what do they augur for the future of our forests?

What criteria do forest managers use to favor particular species? Is it an adaptation to the current and/or future climate, but on what basis/what scenario? Do they take into account wood requirements, local processing possibilities and, therefore, the mechanical properties of the wood of the chosen species? What are the preferences and values of local stakeholders and residents, in terms of environment and landscape? How can they be taken into account when making decisions about forest adaptation? In other words, how can environmental requirements, economic needs and societal expectations be reconciled to ensure sustainability of forests?

Of course, we’ll also question the role of forest plantations, including fast-growing ones, in connection with the Plantaclim project, which prompted this call for proposals. In the context of this project, we have focused on species that have already been planted and appear to be consolidating (poplar) or even expanding (maritime pine). But transplants of new exotic species are also envisaged; what would be the ecological and societal impacts? What precautions are forest managers taking against the risk of invasion? Can’t we take advantage of exotic species that have proved invasive? From an ecological and societal point of view, should we act or let nature take its course, as some environmental protection associations advocate?

Proposals may relate to one or other of these three axes.

Selected papers resulting from the oral presentations will be published.

Modalities for submitting proposals

Contributions may take the form of an oral communication or a scientific poster (A0 format), to be specified at the time of submission. English will be preferred, although French will also be accepted.

Proposals should be entered on the website of the symposium: <https://forests.sciencesconf.org/?forward-action=index&forward-controller=index&lang=en>.

They should include a title, 5 keywords, the axis in which the proposal fits and an abstract of no more than 3,500 characters (including spaces). This abstract should present the research problem/question, the methods, the field and the main results to be presented during the talk or on the poster.

Deadline for submission of proposals: February 2, 2024

Proposals will be evaluated by members of the scientific committee. At the end of this process, advice will be sent to the authors, between March and April 2024.

Contact

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⁵ <https://www.onf.fr/+5b2::les-ilots-davenir-des-plantations-pour-lutter-contre-le-changement-climatique.html>, accessed 26/08/2023, transl.

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