This Abstract book is based on a compilation of all abstracts selected for oral and poster presentations, as of 15 May 2015.

Due to the inability of some authors to attend, some of those works will therefore not be presented during the conference.
Welcome to the Conference

Welcome to Paris, welcome to ‘Our Common Future under Climate Change’!

On behalf of the High Level Board, the Organizing Committee and the Scientific Committee, it is our pleasure to welcome you to Paris to the largest forum for the scientific community to come together ahead of COP21, hosted by France in December 2015 (‘Paris Climat 2015’).

Building on the results of the IPCC 5th Assessment Report (AR5), this four-day conference will address key issues concerning climate change in the broader context of global change. It will offer an opportunity to discuss solutions for both mitigation and adaptation issues. The Conference also aims to contribute to a science–society dialogue, notably thanks to specific sessions with stakeholders during the event and through nearly 80 accredited side events taking place all around the world from June 1st to July 15th.

When putting together this event over the past months, we were greatly encouraged by the huge interest from the global scientific community, with more than 400 parallel sessions and 2200 abstracts submitted, eventually leading to the organization of 140 parallel sessions.

Strong support was also received from many public French, European and international institutions and organizations, allowing us to invite many keynote speakers and fund the participation of more than 120 young researchers from developing countries. Let us warmly thank all those who made this possible.

The International Scientific Committee deserves warm thanks for designing plenary and large parallel sessions as well as supervising the call for contributions and the call for sessions, as well as the merging process of more than 400 parallel sessions into 140 parallel sessions. The Organizing Committee did its best to ensure that the overall organization for the conference was relevant to the objectives and scope. The High Level Board raised the funds, engaged the scientific community to contribute and accredited side events. The Conference Secretariat worked hard to make this event happening. The Communication Advisory Board was instrumental in launching and framing our communication activities on different media. We are very grateful to all.

We very much hope that you will enjoy your stay in Paris and benefit from exciting scientific interactions, contributing to the future scientific agenda. We also hope that the conference will facilitate, encourage and develop connections between scientists and stakeholders, allowing to draw new avenues in the research agenda engaging the scientific community to elaborate, assess and monitor solutions to tackle climate change together with other major global challenges, including sustainable development goals.

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Tropical Forest Degradation in the context of climate change: increasing role and research challenges

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While developed countries in temperate regions faced their forest transition about 100 years ago or more, ‘tropical forest rich’ nations still largely depend on forest resources or land clearing for their development. Hence, tropical forests and the corresponding ecosystem services have become a major component of today’s global landscapes, representing up to 50% of all tropical forests. For example, almost half of standing primary tropical forests, up to 400 million ha, are designated by national forest services for timber production. The portion of tropical forests managed for timber extraction, however, referred to as ‘managed forests’, will therefore play key roles in the trade-off between provision of goods and maintenance of carbon stocks, biodiversity, and other services. However, so far, most of our understanding of tropical forests was derived from studies carried out in old-growth undisturbed forests, or secondary forests (i.e. regrowth forests) while the ecology of degraded forests at the regional and continental scale remains poorly studied and their role to mitigate climate change still very poorly known. However, understanding the functions played by degraded forests in providing goods and environmental services in the context of climate change is crucial. We will first discuss the complex concept of forest degradation in the tropics and then define degraded forests. We will show their importance in providing timber while maintaining high levels of biodiversity and carbon stocks. We will further demonstrate that implementation of sustainable forest management can promote long-term provision of ecosystem services. Finally, the potential of tropical degraded forests in mitigating climate change will be discussed along with future research challenges on this issue.