

15 ways to reforest the planet: International scientists call for decade of global action

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Scientists are calling for a "decade of global action" to reforest the planet following the publication of new research involving botanists from Trinity.

The landmark issue of the *Philosophical Transactions of the Royal Society B* reveals the latest scientific advances in [forest](#) restoration with the aim of benefiting people as well as nature.

"Meeting global targets for the United Nations Decade on Ecosystem Restoration requires evidence-based and on-the-ground action," said Dr. Peter Moonlight, Assistant Professor in Trinity's School of Natural Sciences at Trinity College Dublin.

Dr. Moonlight said it was exciting to see the strong focus on forests at this week's UN Climate Change Conference (COP27) in Egypt, with the European Union joining 26 world leaders in committing to halting [forest loss](#) and land degradation by 2030.

He said the recommendations in the new journal issue combined research findings with knowledge and experience from many countries.

"We aim to learn both from the past and from cutting-edge techniques to deliver long-term success—not just in how we restore forests, but in which ones are prioritized and in how we account for societal, economic, and climatic pressures," he said.

"Almost 200 authors from 27 countries and the United Nations' taskforce are working to ensure these findings really make a difference to forest restoration and inspire a decade of global action, particularly in the tropics where much of this research has been undertaken."

The principal paper lists 15 essential advances for science to help restore the world's forested landscapes.

"Forests are crucial for the health and functioning of our planet, but it is crucial their management and restoration benefits biodiversity, [local communities](#) and cultures, as well as removing carbon from the

atmosphere," he said.

He said a growing body of evidence is showing that forest restoration relies upon growing the right trees in the right places to boost species biodiversity, carbon sinks, economic developing, and people's livelihoods.

Dr. Moonlight added, "Historic forestry transformed Ireland from a forest nation to one of the least forested nations in Europe. Recent tree planting initiatives have started to turn the tide, but more than 50% of Irish tree cover is Sitka spruce—a north American species grown for timber but one which provides few habitats for other species and is often seen as a blight on the landscape."

"Forest restoration cannot happen to the detriment of other, biodiversity and carbon-rich systems with rich cultural heritages, such as the [peat bogs](#) and temperate rainforests of Ireland—tree-planting is not always the correct approach to restoration, and that [restoration](#) needs to consider underlying ecology, local people, and the ultimate reasons for planting the trees."

More information: Andrew R. Marshall et al, Fifteen essential science advances needed for effective restoration of the world's forest landscapes, *Philosophical Transactions of the Royal Society B: Biological Sciences* (2022). [DOI: 10.1098/rstb.2021.0065](https://doi.org/10.1098/rstb.2021.0065)

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