

Land use delays could hamper climate efforts

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Global climate change targets are unlikely to be met because of delays in changes to land use, Edinburgh researchers say.

Efforts to make land management less damaging to the climate need to be stepped up if high levels of climate change are to be avoided,

scientists say.

Climate targets

The Paris Agreement to limit average global temperature increases to 1.5 degrees Celsius above pre-industrial levels relies heavily on changing how farm land and forests are managed, the team says.

Many countries plan to prevent deforestation or establish new forests to absorb [carbon dioxide](#), and reduce [greenhouse gas emissions](#) from agriculture. These changes would remove up to one quarter of the greenhouse gases released through [human activity](#) every year.

A team led by scientists at the Karlsruhe Institute of Technology in Germany found that such changes in land use usually take decades to occur. They say that is far too slowly to make the required contribution to slowing climate change.

"Our research suggests that many of the plans for mitigation in the land system were unrealistic in the first place, and now threaten to make the Paris target itself unachievable," says Dr. Calum Brown of Karlsruhe Institute of Technology.

Tropical forests

The research also highlights the issue of deforestation in tropical regions, which has accelerated recently after previously slowing down.

Of particular concern is the ongoing destruction of [tropical forests](#) in Brazil, the Democratic Republic of the Congo and Indonesia, the team says. These forests store huge quantities of carbon and contain high levels of biodiversity.

Attempts to protect the forests have had limited success, and laws against tree felling have recently been rolled back, they add.

The slow rate of progress is, the team says, a result of disconnected political priorities. Delays in the adoption of new [land management](#) approaches and trade regulations that drive deforestation are also to blame.

"Individual countries' plans to meet the Paris Agreement targets are vague, almost certainly insufficient and unlikely to be implemented in full. We need to find rapid but realistic ways of changing human land use if we are to meet our [climate change](#) goals," says Dr. Peter Alexander of the School of GeoSciences.

The study, published in the journal *Nature Climate Change*, was supported by the Helmholtz Association, the Global Food Security programme and the EU's Seventh Framework Programme.

More information: Calum Brown et al. Achievement of Paris climate goals unlikely due to time lags in the land system, *Nature Climate Change* (2019). [DOI: 10.1038/s41558-019-0400-5](https://doi.org/10.1038/s41558-019-0400-5)

Provided by University of Edinburgh

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