How climate change may be impacting the world's tropical forests

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New research suggests that multi-year droughts will significantly alter the structure, composition, and dynamics of second-growth tropical forests, which have re-grown after cessation of agricultural activity or a major disturbance such as fire. These second-growth forests represent the prevalent tropical forest cover today.

Investigators combined 14 years of data on annual tree growth and survival with local climate records in the Caribbean lowlands of Costa Rica to evaluate tree responses to inter-annual differences in temperature and dry-season water stress.

"Because tropical forests contain the world's greatest diversity of tree species, identifying the traits that best predict tree responses to changing climatic drivers will be an important step in building models of tropical forest dynamics," said Dr. Maria Uriarte, lead author of the *Functional Ecology* study.

The article is part of a Demography Beyond the Population Special Feature that is a unique large-scale ecological collaboration including articles in all six British Ecological Society journals. Its goal is to highlight the potential of demography to connect across scales and inform a broad range of questions in ecology and evolution.

More information: María Uriarte et al. A trait-mediated, neighbourhood approach to quantify climate impacts on successional dynamics of tropical rainforests, *Functional Ecology* (2016). DOI:

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