
Can we plant our way
out of climate change?

RESTORATION ECOLOGY

The global tree restoration potential

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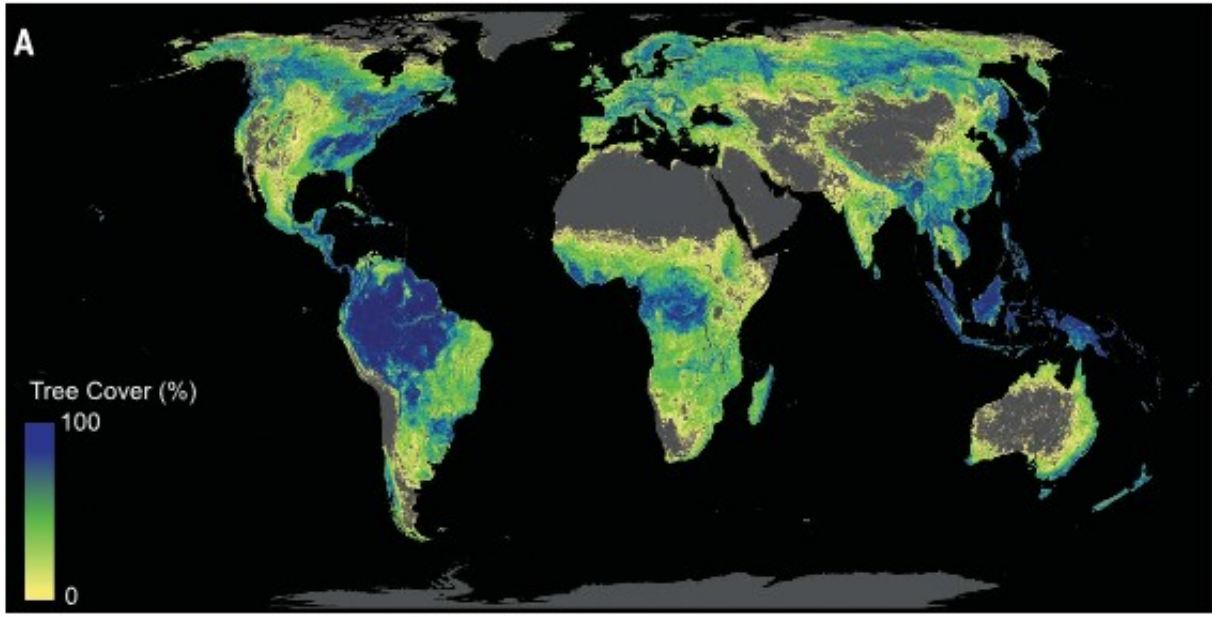
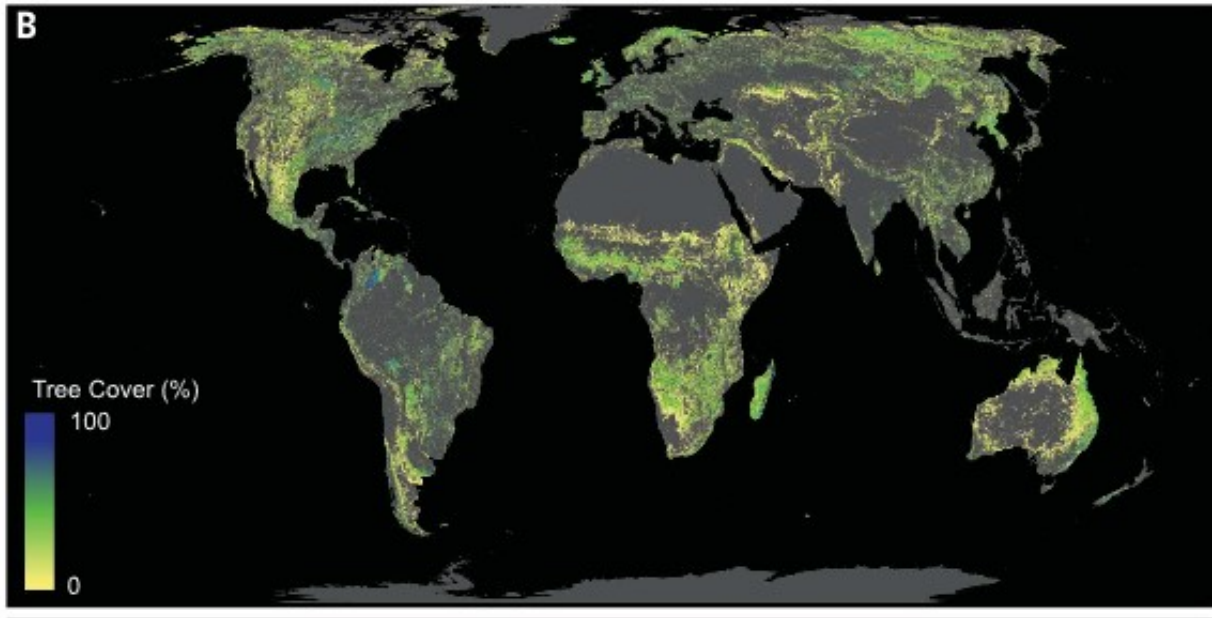
The restoration of trees remains among the most effective strategies for climate change mitigation. We mapped the global potential tree coverage to show that 4.4 billion hectares of canopy cover could exist under the current climate. Excluding existing trees and agricultural and urban areas, we found that there is room for an extra 0.9 billion hectares of canopy cover, which could store 205 gigatonnes of carbon in areas that would naturally support woodlands and forests. This highlights global tree restoration as our most effective climate change solution to date. However, climate change will alter this potential tree coverage. We estimate that if we cannot deviate from the current trajectory, the global potential canopy cover may shrink by ~223 million hectares by 2050, with the vast majority of losses occurring in the tropics. Our results highlight the opportunity of climate change mitigation through global tree restoration but also the urgent need for action.

The proposal

- Planting 0.9 billion ha of trees will limit warming to 1.5 degrees
- Rainforests are the ideal vegetation community for replanting
- Six countries could provide the necessary land:
  1. Russia
  2. United States
  3. Canada
  4. Australia
  5. Brazil
  6. China





https://www.crowtherlab.com/maps-2/

Plant the trees!

- ✓ Good for biodiversity
- ✓ Good for physical and mental health
- ✓ Reduces energy costs
- ✓ Reduce salinity issues
- ✓ Reduce erosion/topsoil loss
- ✓ Large areas of trees result in more rainfall
- ✓ Simpler than other ‘solutions’
- ✓ Draws down carbon
- ✓ Silviculture potential

Don’t plant the trees!

- Cost
- Time
- Huge systems changes
- Likelihood of plant survival
- Albedo reductions in boreal areas
- Complexities of natural forests v monocultures
- The earth is already greening
- Assumptions in the analysis

Commitments

Bonn Challenge

- Launched 2011
- 59 commitments to date
- 170.63 million ha pledged
- Mainly Global South countries
- Overcommitted in some places, undercommitted in others

http://www.bonnchallenge.org/

Rewilding and revegetating

- Landcare
- Extinction Rebellion Rewilding Australia
- 20 Million Trees
- National Tree Day
- One Tree Planted

https://tree-nation.com/projects

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