

Global potentials for ecosystem restoration

SPIPA seminar, November 9th, 2021.

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MMARY FOR POLICYMAKERS



INTERGOVERNMENTAL PANEL ON Climate change

Climate Change and Land

An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems

Summary for Policymakers





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INTERGOVERNMENTAL PANEL ON Climate ch

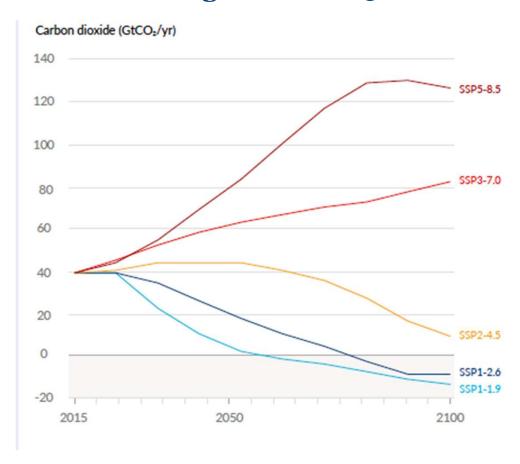
Global Warming of 1.5°

An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathw; in the context of strengthening the global response to the threat of climate cha sustainable development, and efforts to eradicate poverty

Summary for Policymakers

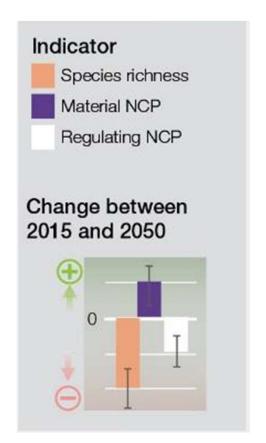


Global warming to reach 1.5C in 'best case' scenario





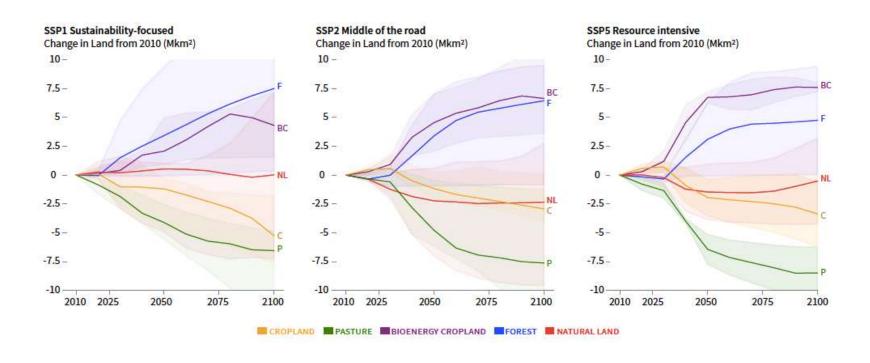
Biodiversity impacts from climate and land-use change under SSPs 1, 3, 5 NCP=Natures Contribution to People



IPBES Global Assessment Report, Figure SPM 8

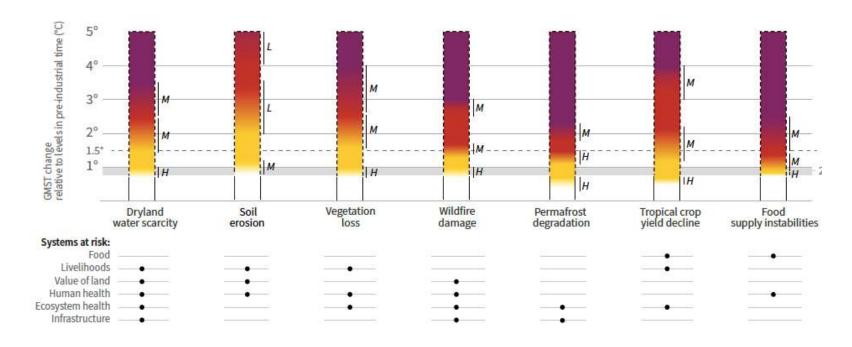


Climate mitigation responses and land-use change





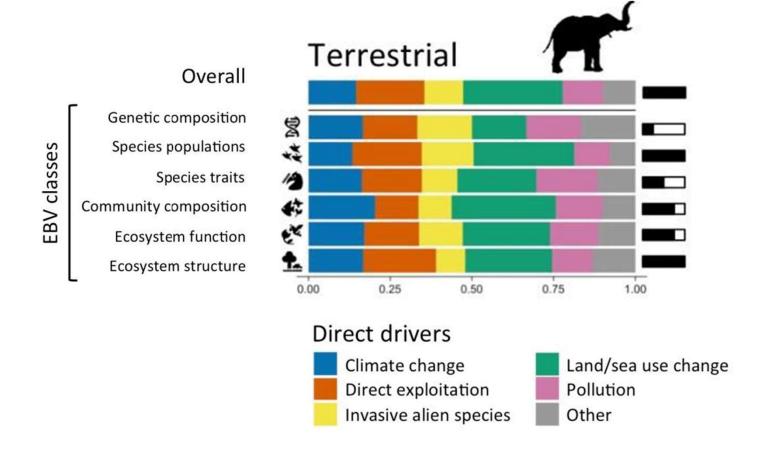
Risks to humans and ecosystems from changes in land-based processes as a result of climate change and climate mitigation



IPCC SRCCL Figure SPM 2a

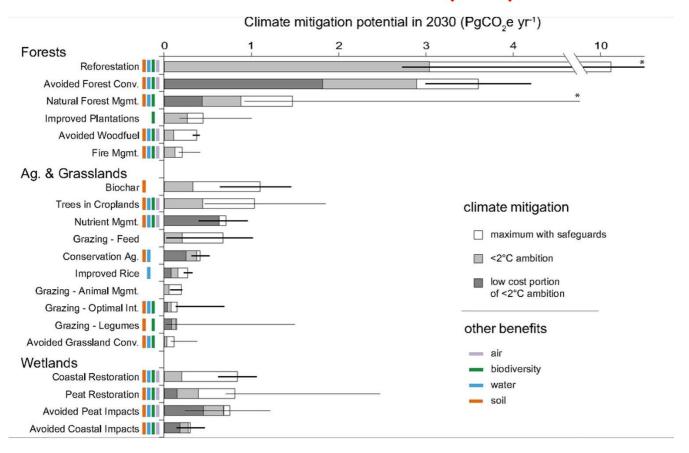


Drivers to biodiversity loss





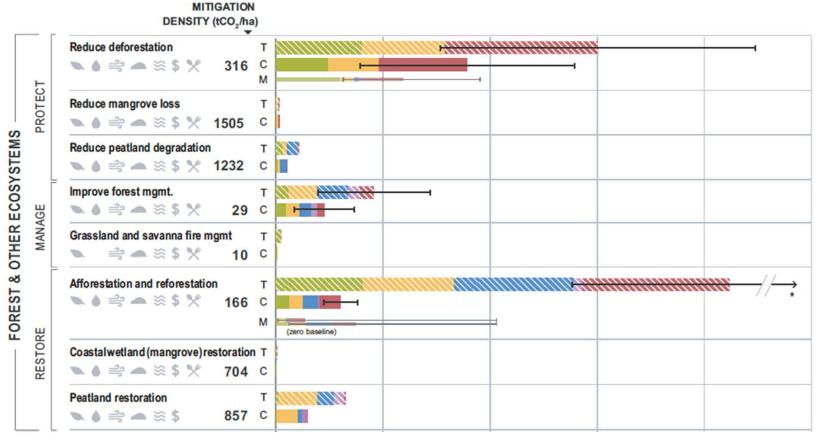
Nature based solutions – 30% of global mitigation?



Griscom et al., 2017 Natural Climate Solutions. PNAS.



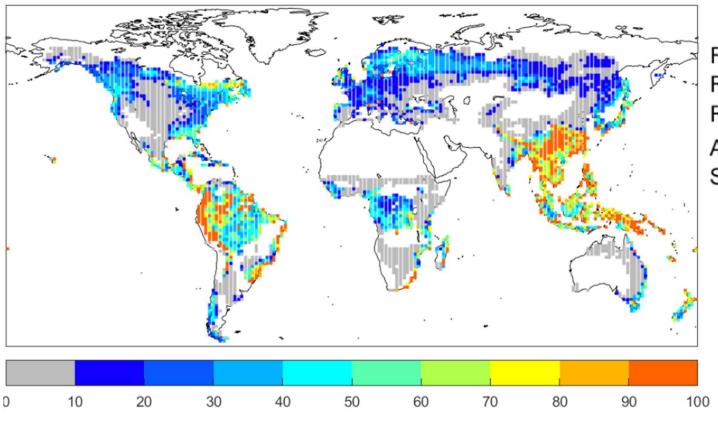
Land-based mitigation measures



Roe et al (2021) Land-based measures to mitigate climate change: Potential and feasibility by country. GCB. DOI: 10.1111/gcb.15873



Ecosystem restoration

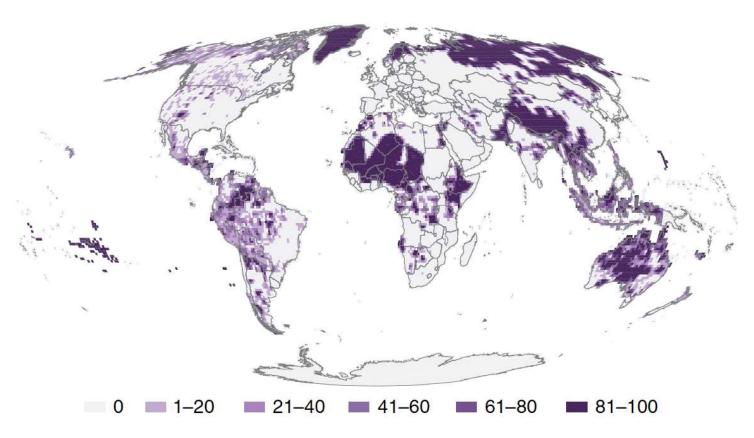


Forest Restoration (541 Mha) Reforestation (344 Mha) Reduced Harvest (1047 Mha) Agroforestry (849 Mha) Silvopasture (478 Mha)

Littleton et al. 2021. Dynamic modelling shows substantial contribution of ecosystem restoration to climate change mitigation. GSI working paper series number 2021/02. https://www.exeter.ac.uk/media/universityofexeter/globalsystemsinstitute/documents/Littleton et al-Dynamic modelling shows.pdf



Global map of lands managed by indigenous peoples



Source: Garnet et al 2018

https://doi.org/10.1038/s41893-018-0100-6



Conclusions

Can we consider climate mitigation options that phase-out fossil fuel emissions instead of relying on nature as an offset?

