Environmental benefits of relocating global croplands

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Environmental impacts of agriculture

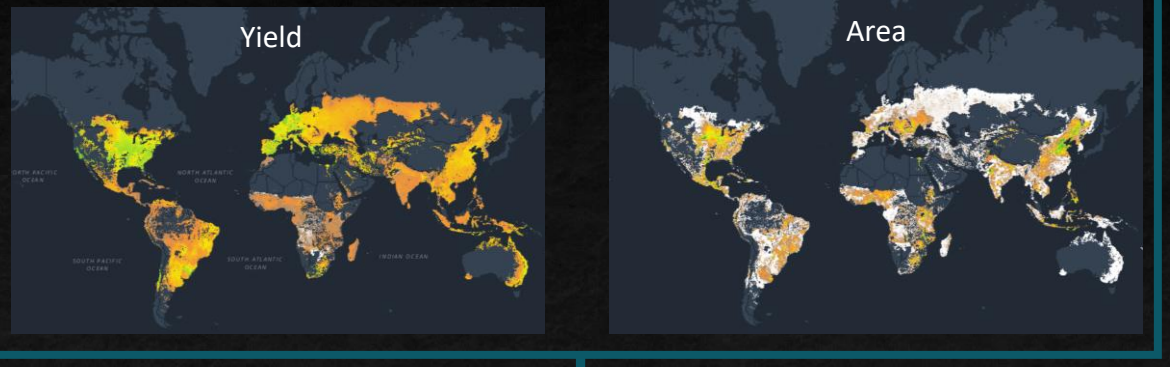
Carbon emissions

Biodiversity loss

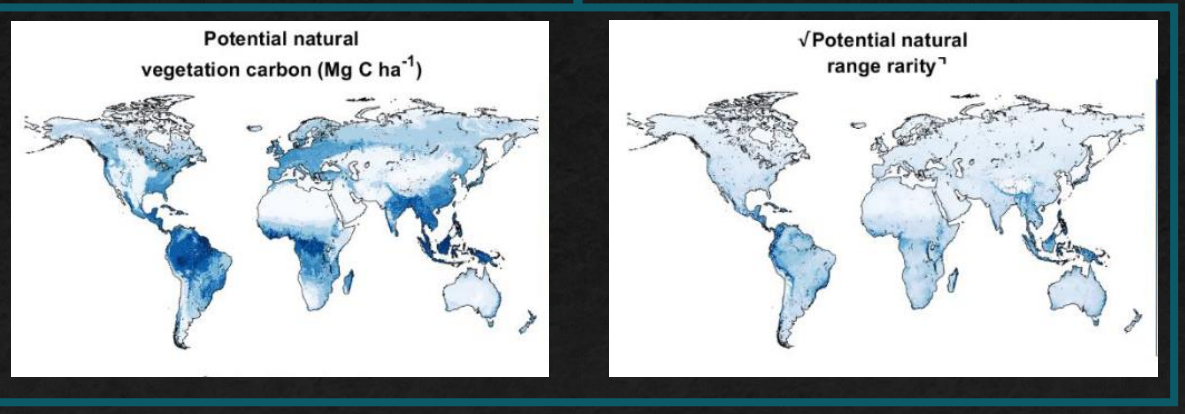
Freshwater use

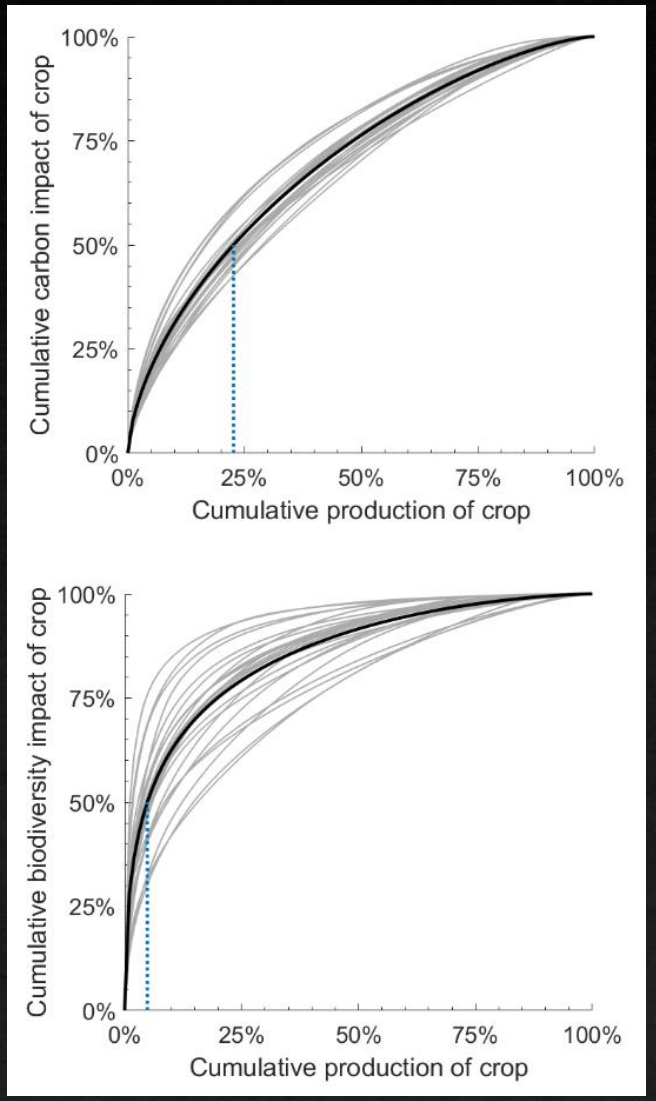
Heterogeneous impacts-per-yield

Crop data



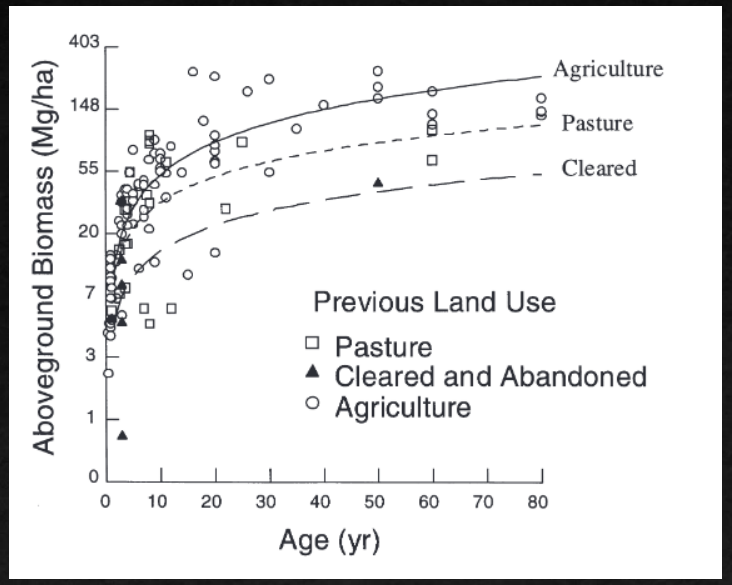
Impact data



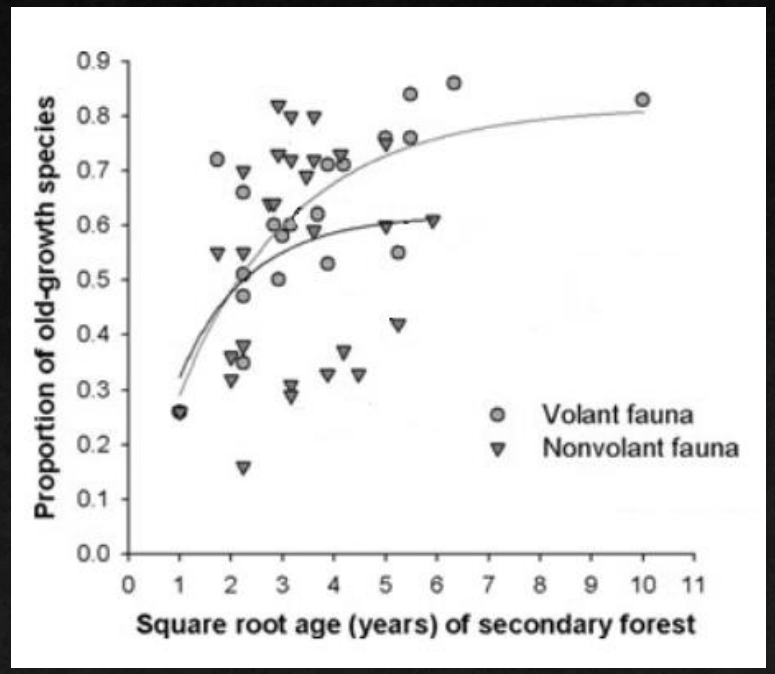


Crop impact $\stackrel{\text{def}}{=}$ Natural state – Crop-specific state

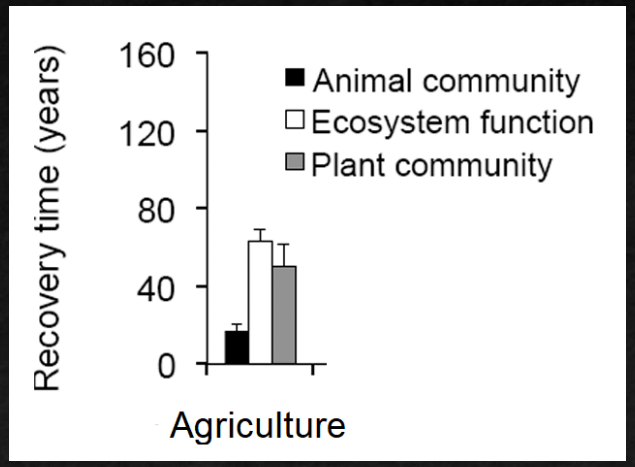
Carbon and biodiversity recovery on abandoned cropland



Silver et al. (2000)

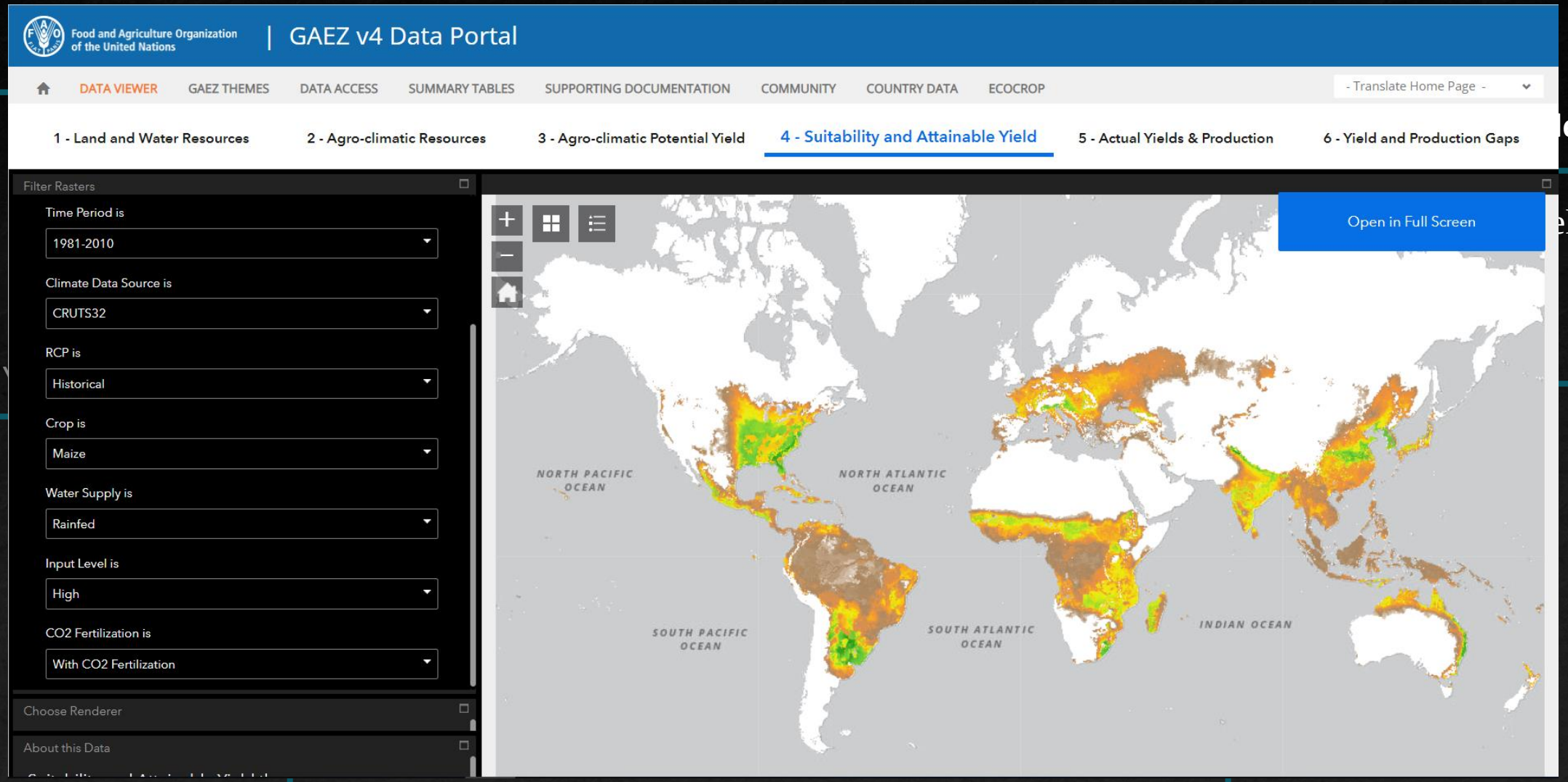


Chazdon et al. (2009)



Jones & Schmitz (2009)

Optimising global cropland distribution



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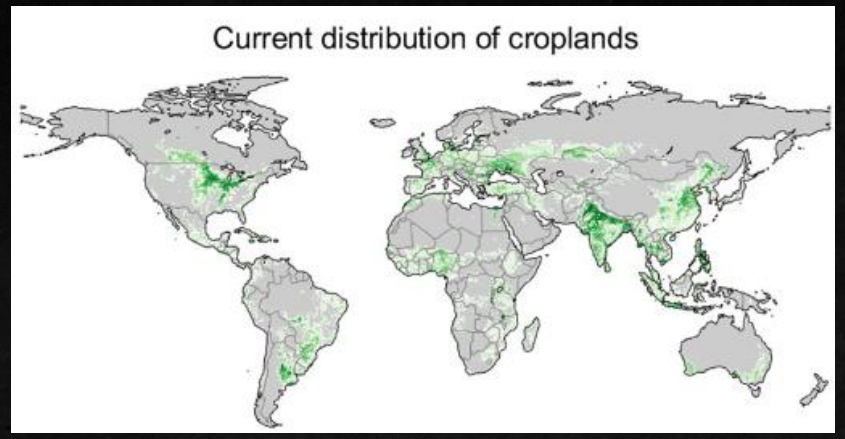
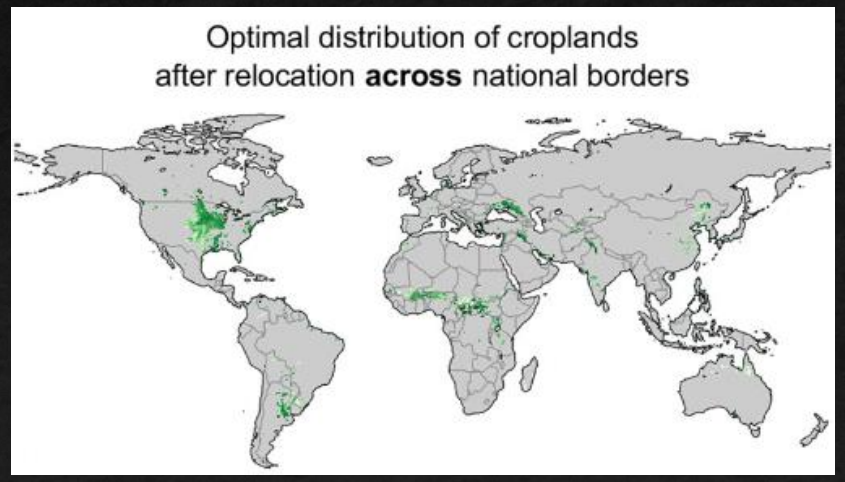
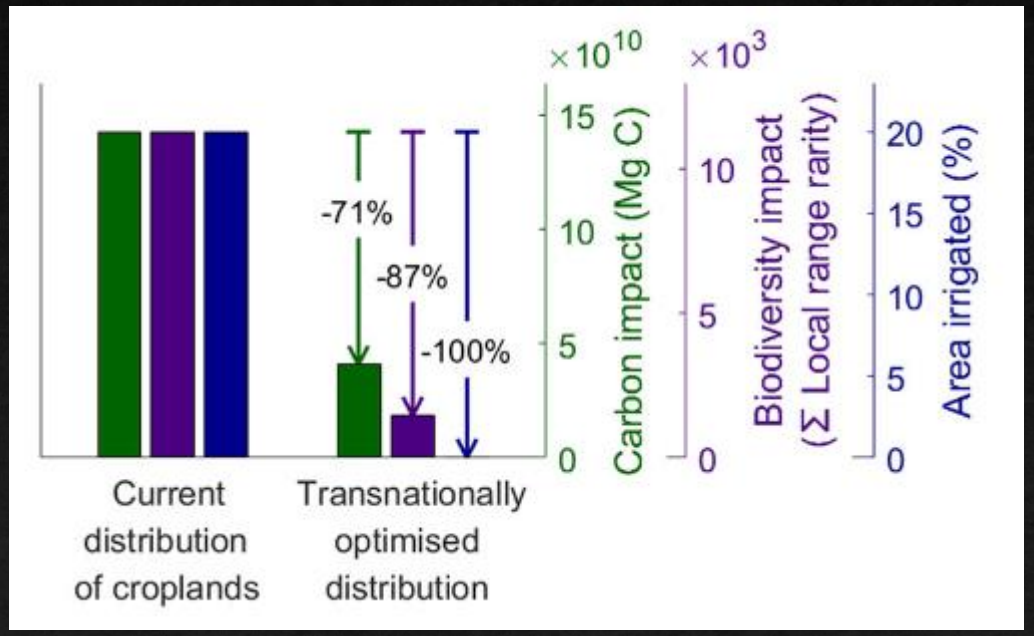
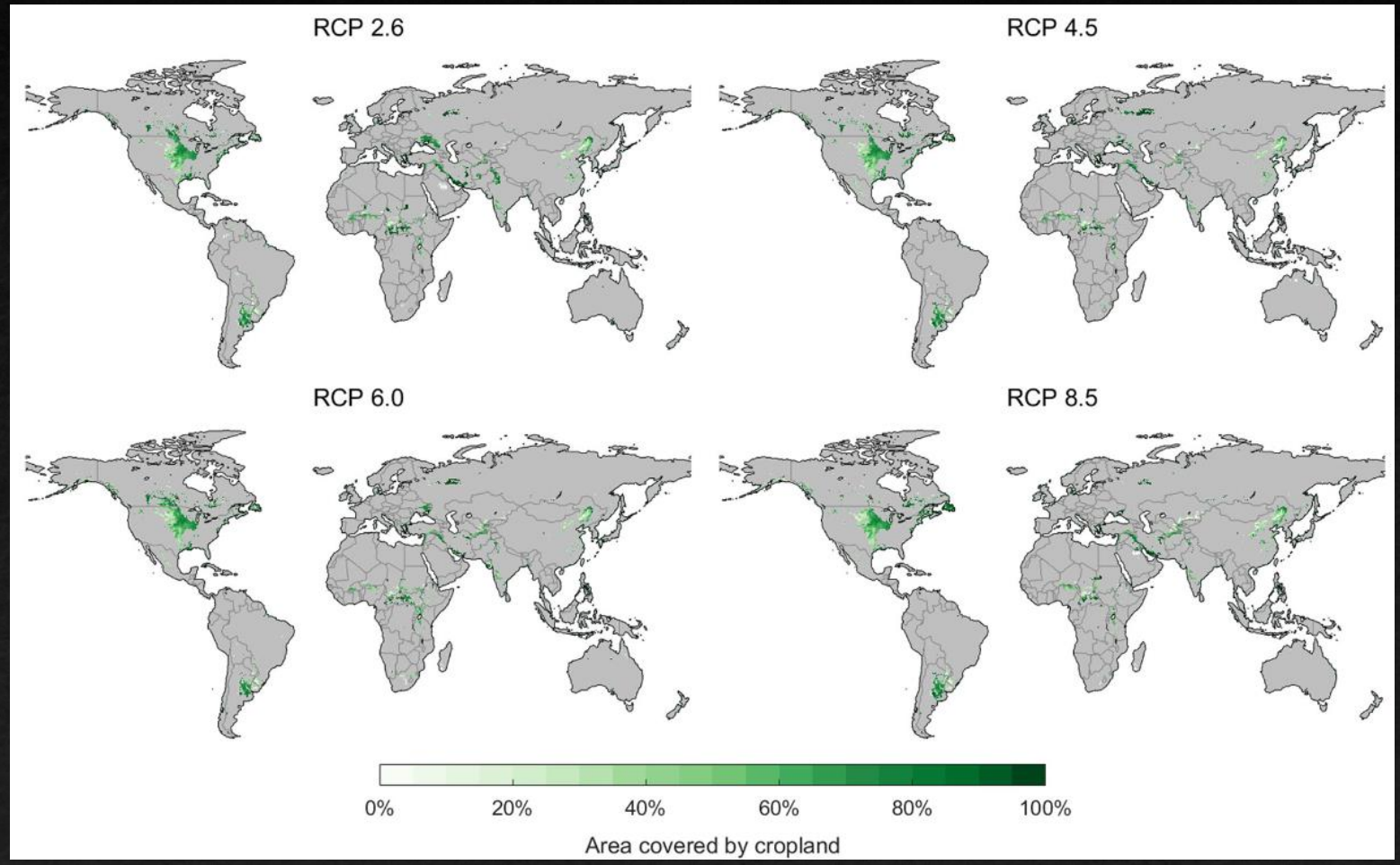
Optimal global cropland distribution



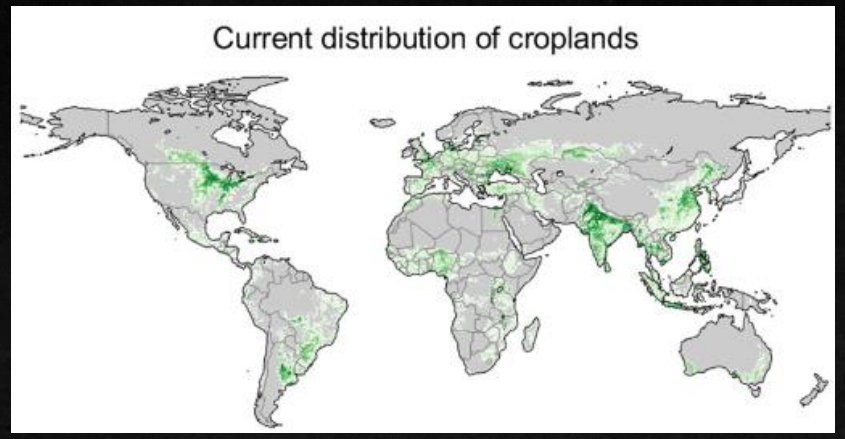


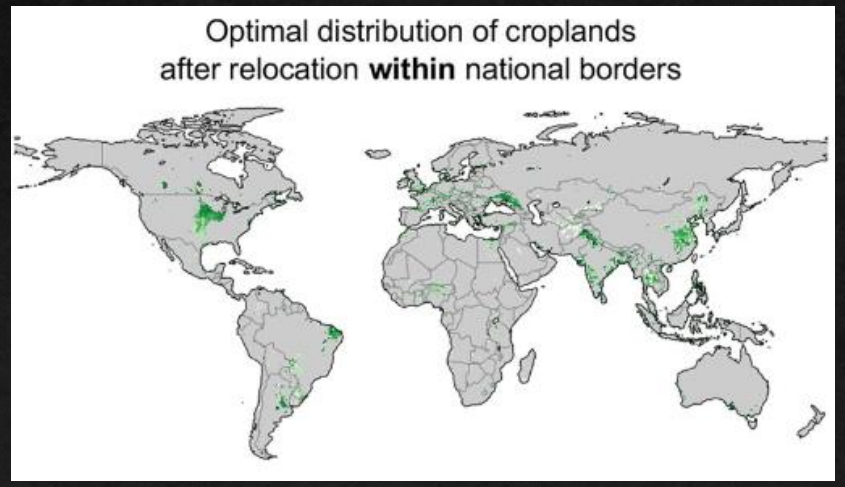


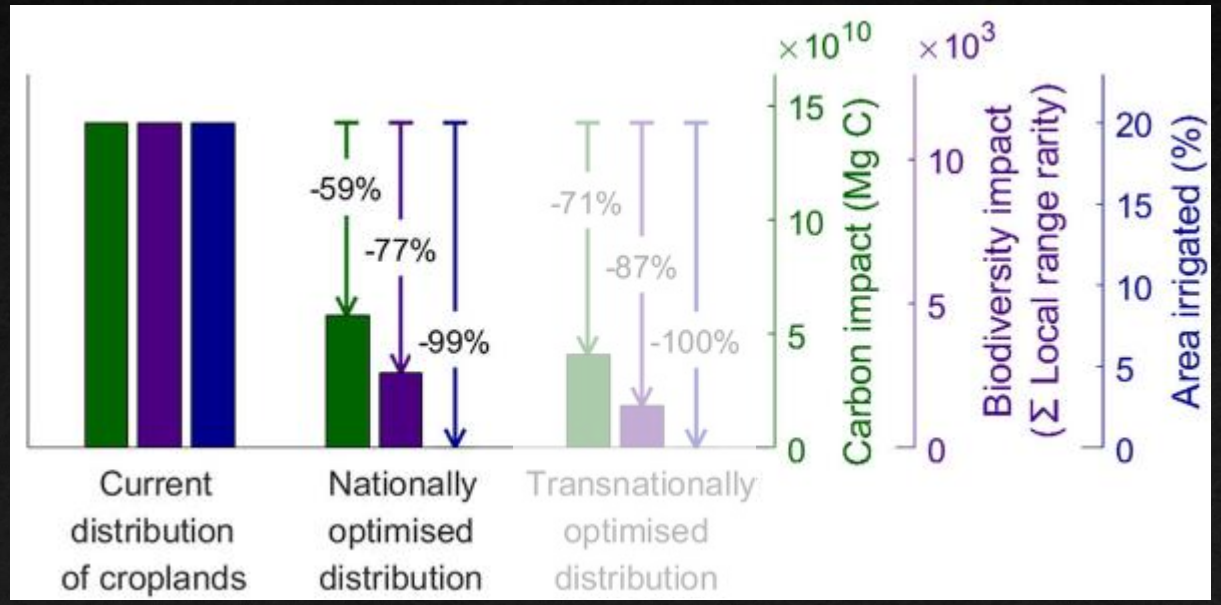
Optimal global cropland distribution – future climate



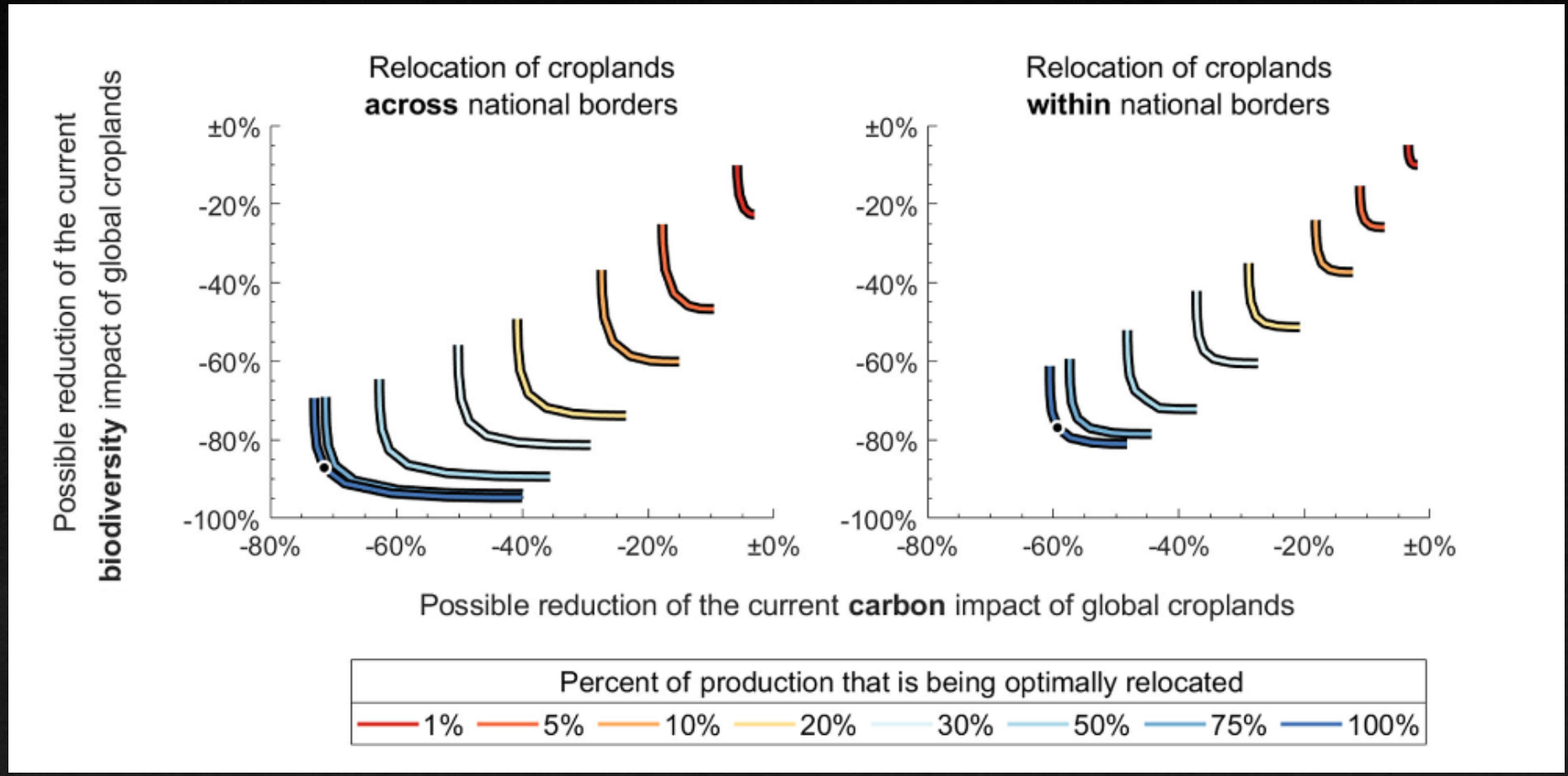
Optimal global cropland distribution – national relocation



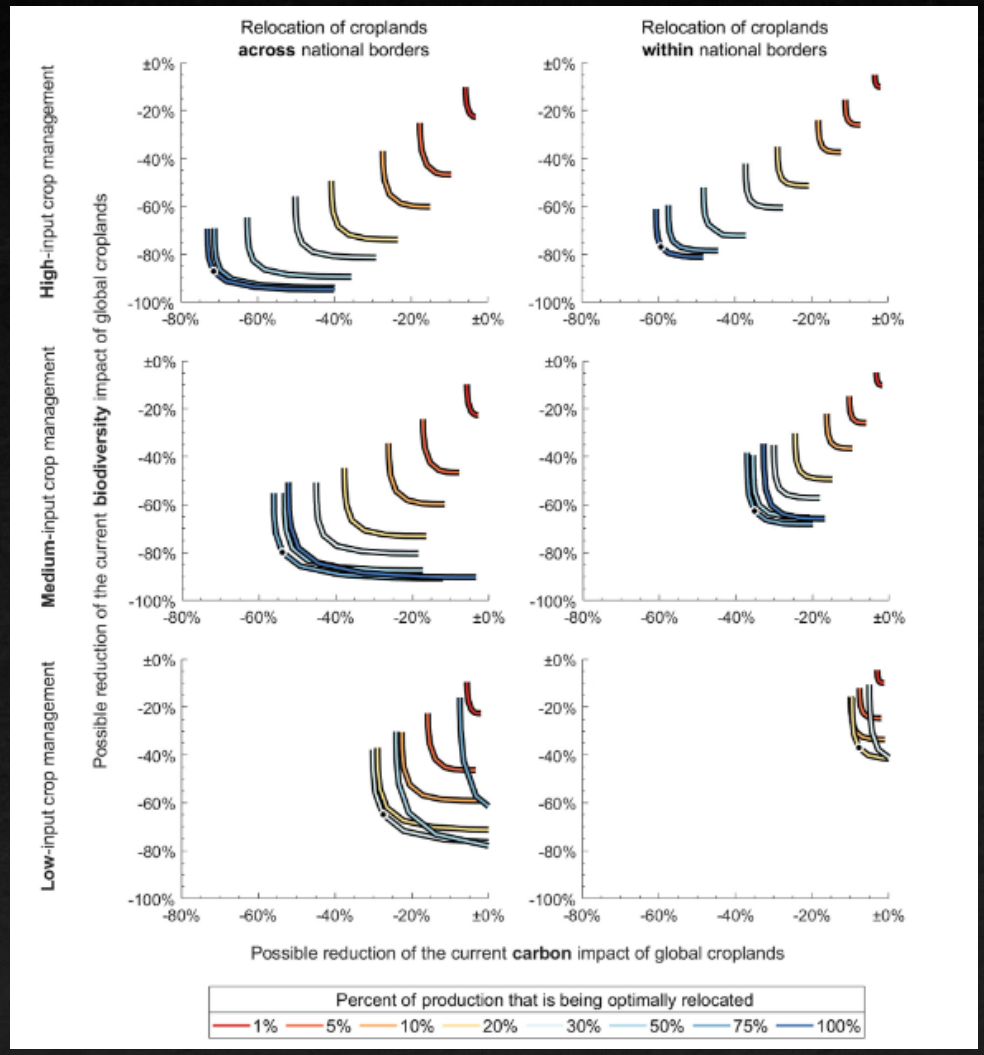




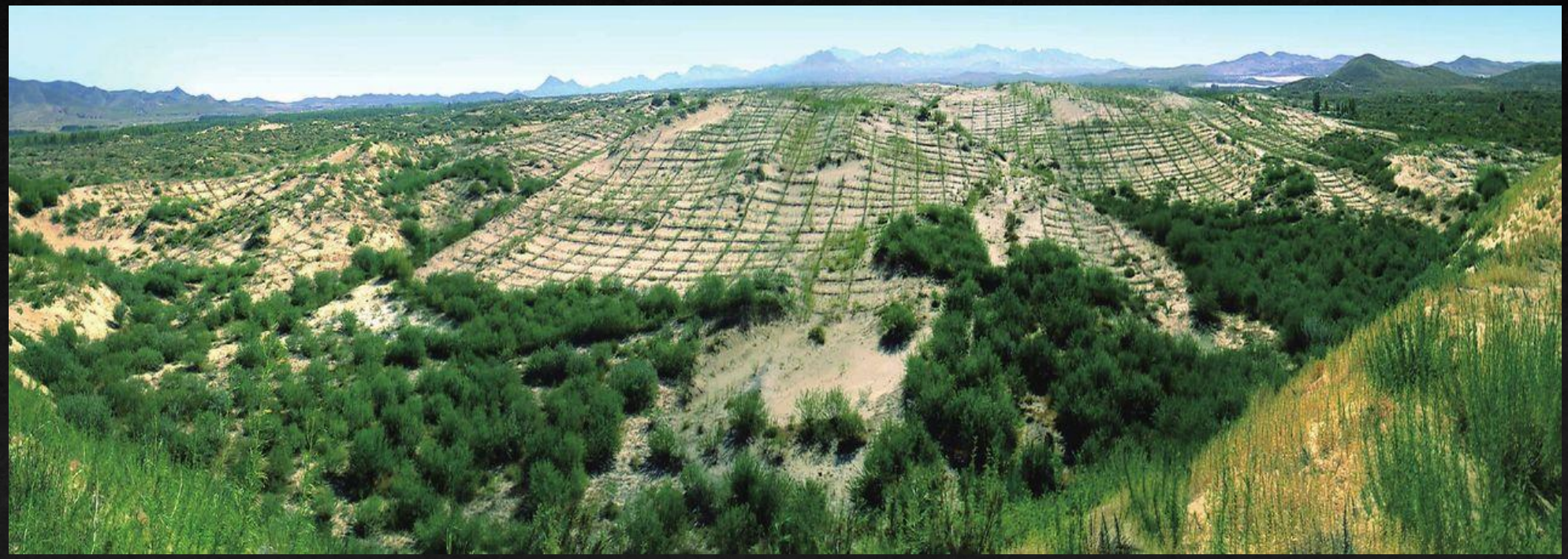
Partial relocation



Partial relocation – less intensive management



Policy aspects

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Thank you!

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