



Beyond the Aichi Targets: 'Space for Nature'

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What would half deliver for carbon and water?

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carbon is relatively easy

Stock of atmospheric carbon = 589 Gt C

Ecosystem carbon stock = 2,500 Gt C

Biomass carbon stock = 550 Gt C

Forest biomass carbon stock = 300 Gt C

Increase in atm[CO₂] from deforestation by 2100 = 130-290 ppm

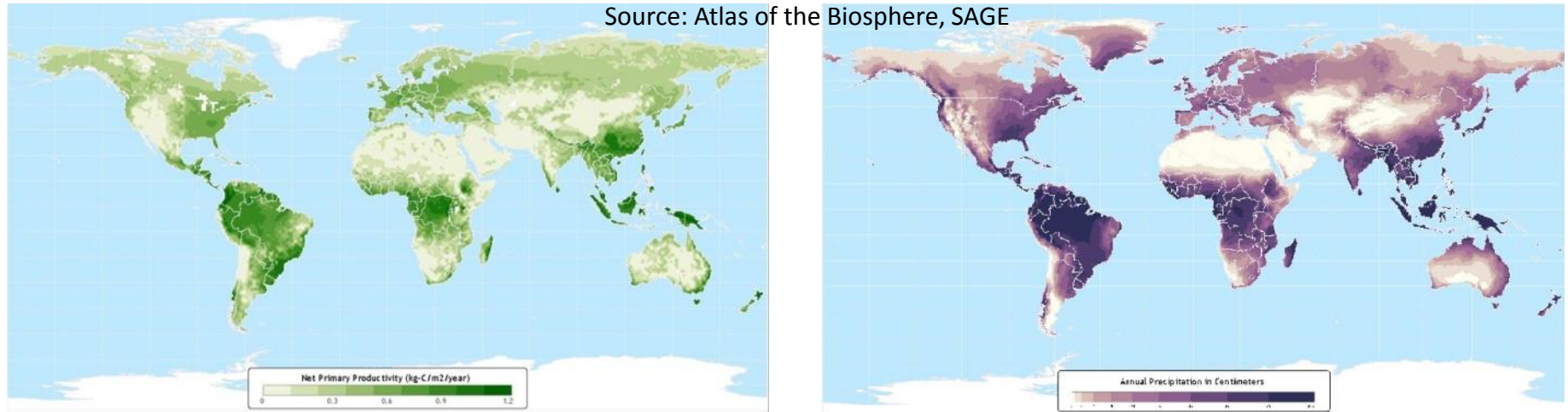
Increase in atm[CO₂] from primary forest loss by 2100 = 50-100 ppm

Current atm[CO₂] = 400 ppm

Upper safe (2°C) range atm[CO₂] ~ 450 ppm

water benefits are more complex

plants & water are tightly coupled



Why?

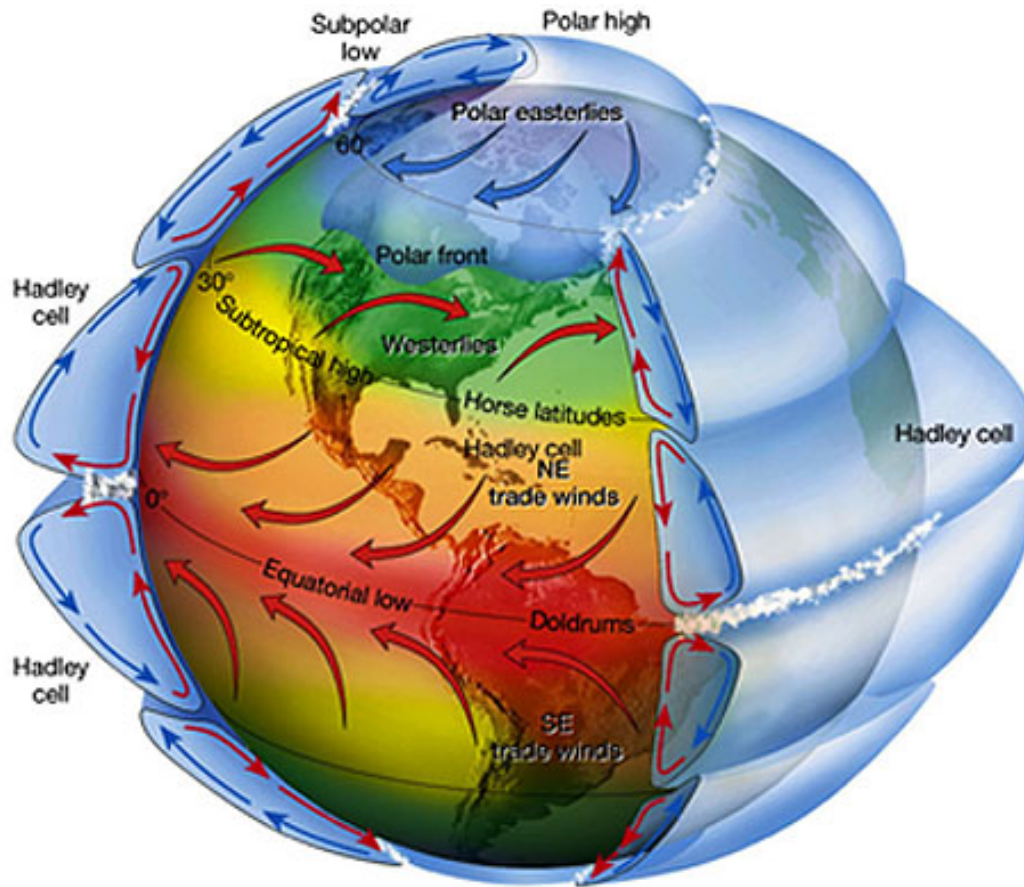
Plants made from cells → Cells mostly made from water

Grand challenge → Growth, Survival, Reproduction

Plants → Maintain hydration & uptake of CO₂ (which inevitably requires loss of water)

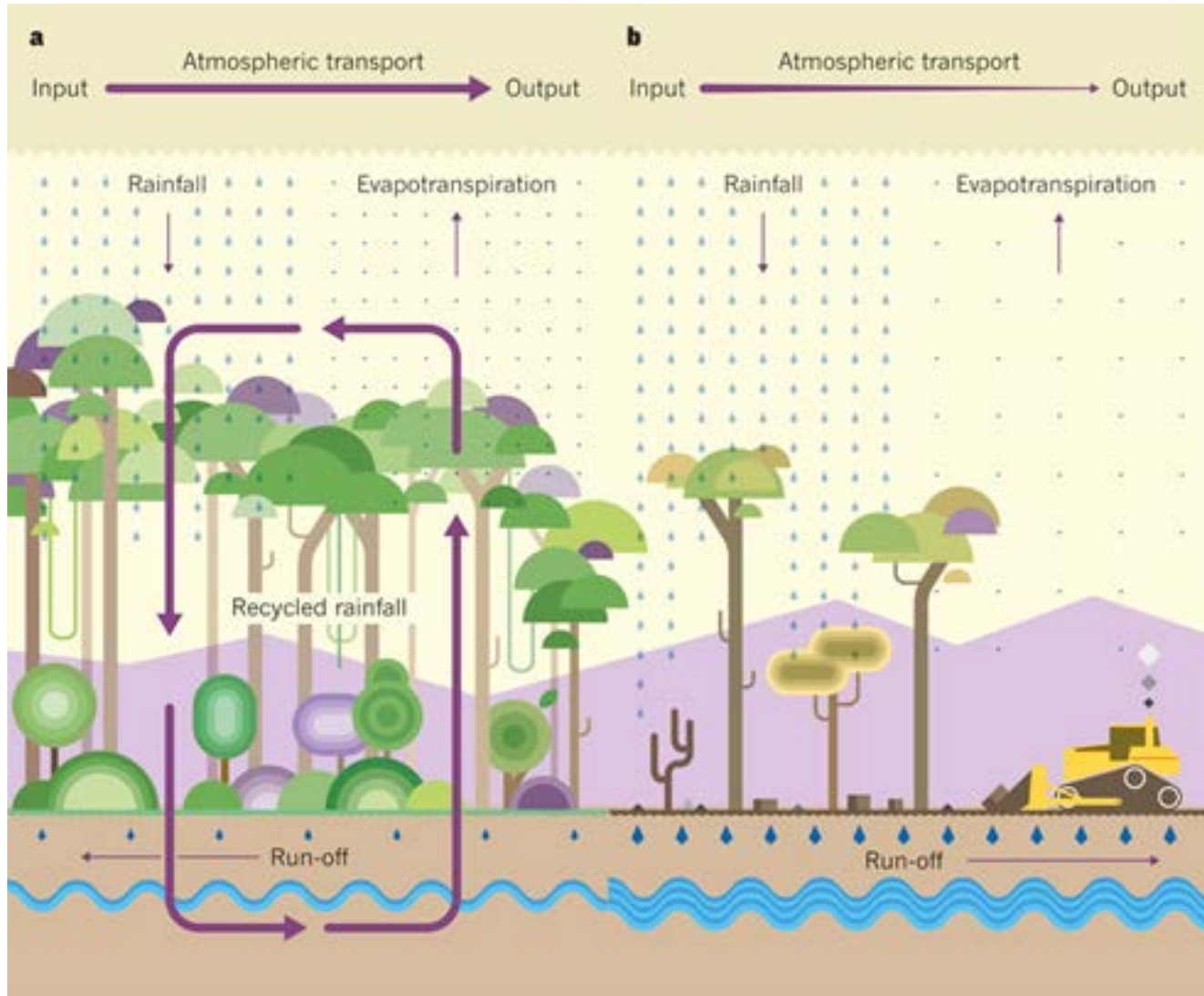
water benefits are scale dependent

Global

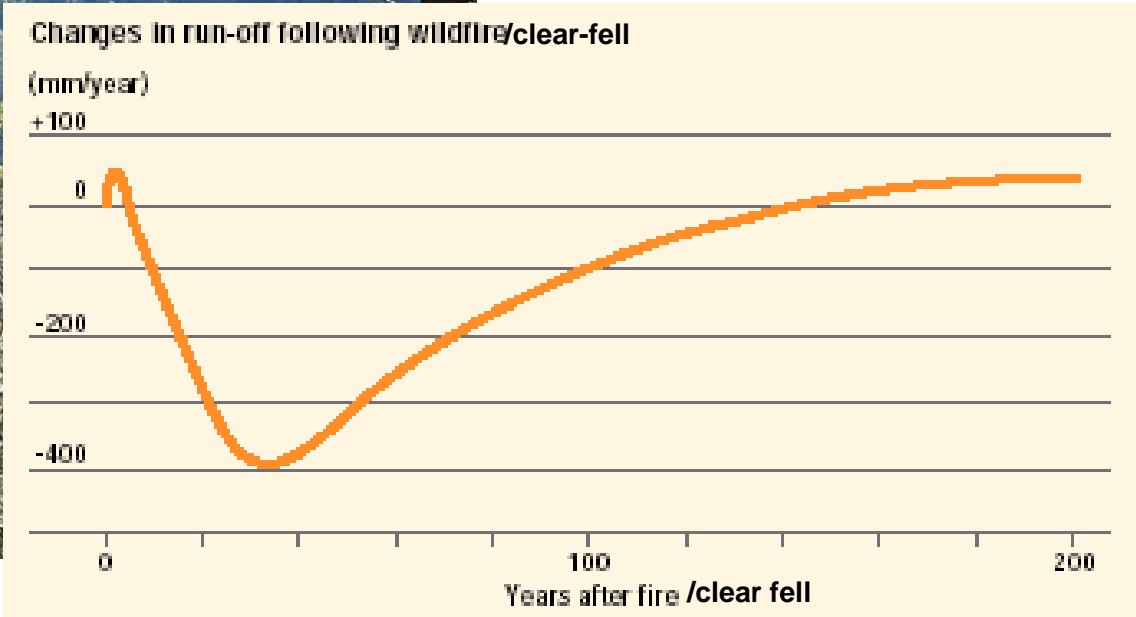
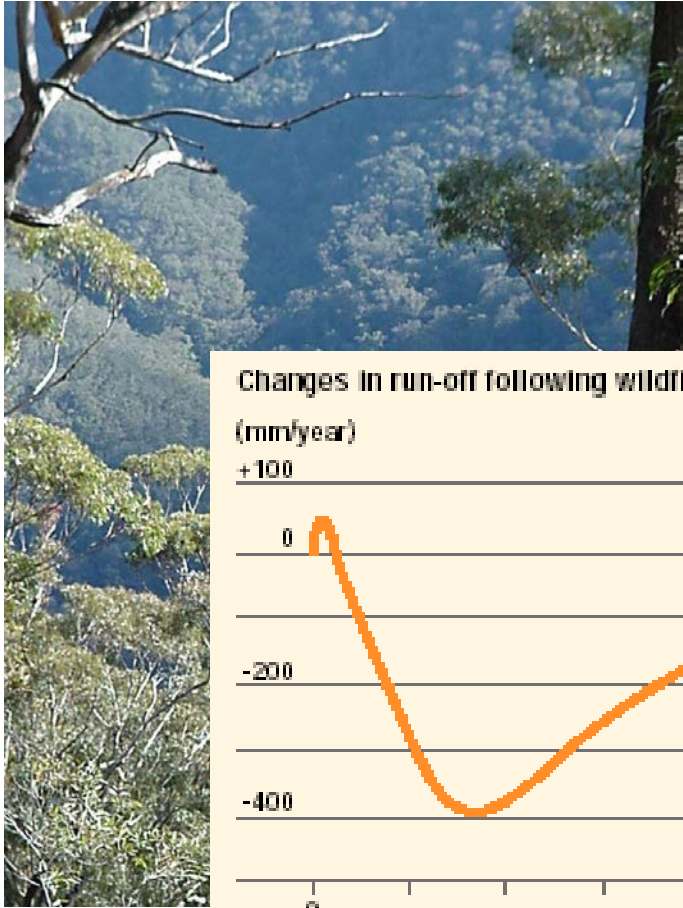
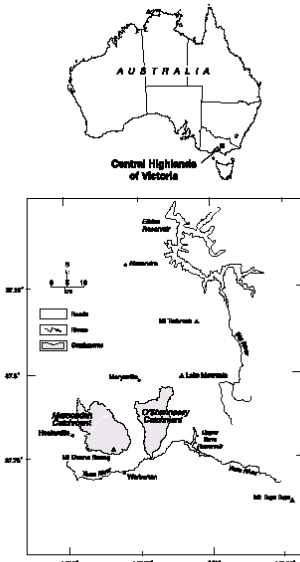


Sources: fas.org

regional



watershed



From: *State of Environment Report 1996*; <http://www.ea.gov.au/soe/soe96/pubs/chap07.pdf>