Transforming sand into soil: approaches & benefits

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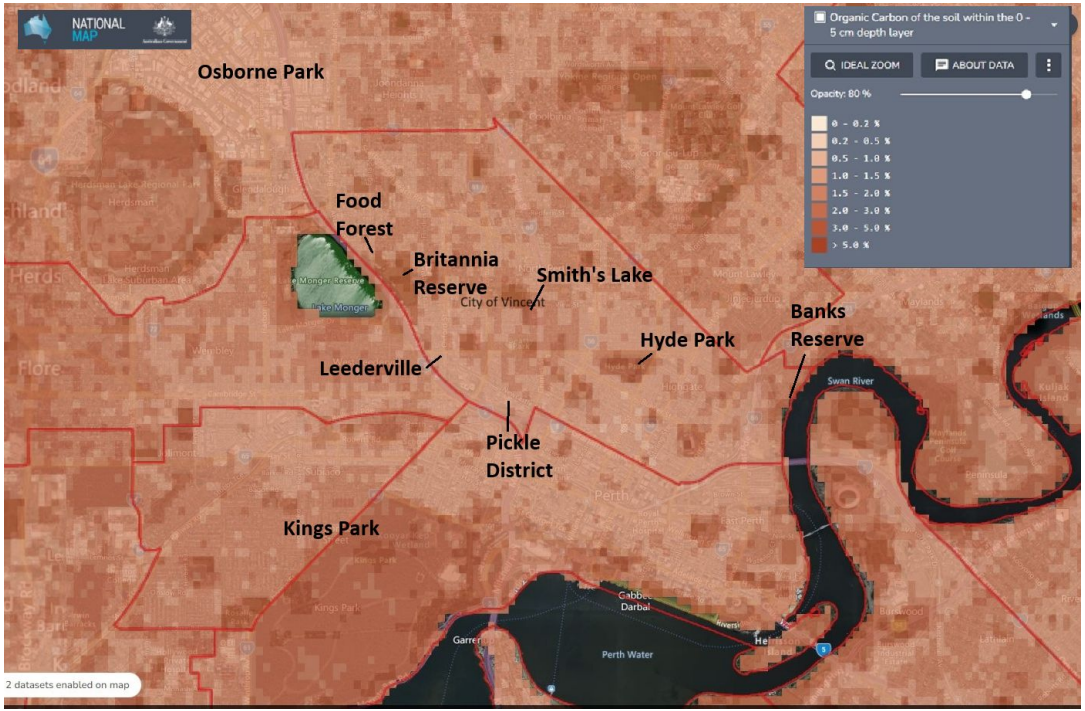
(5 mins)

Urban areas have been depleted of carbon

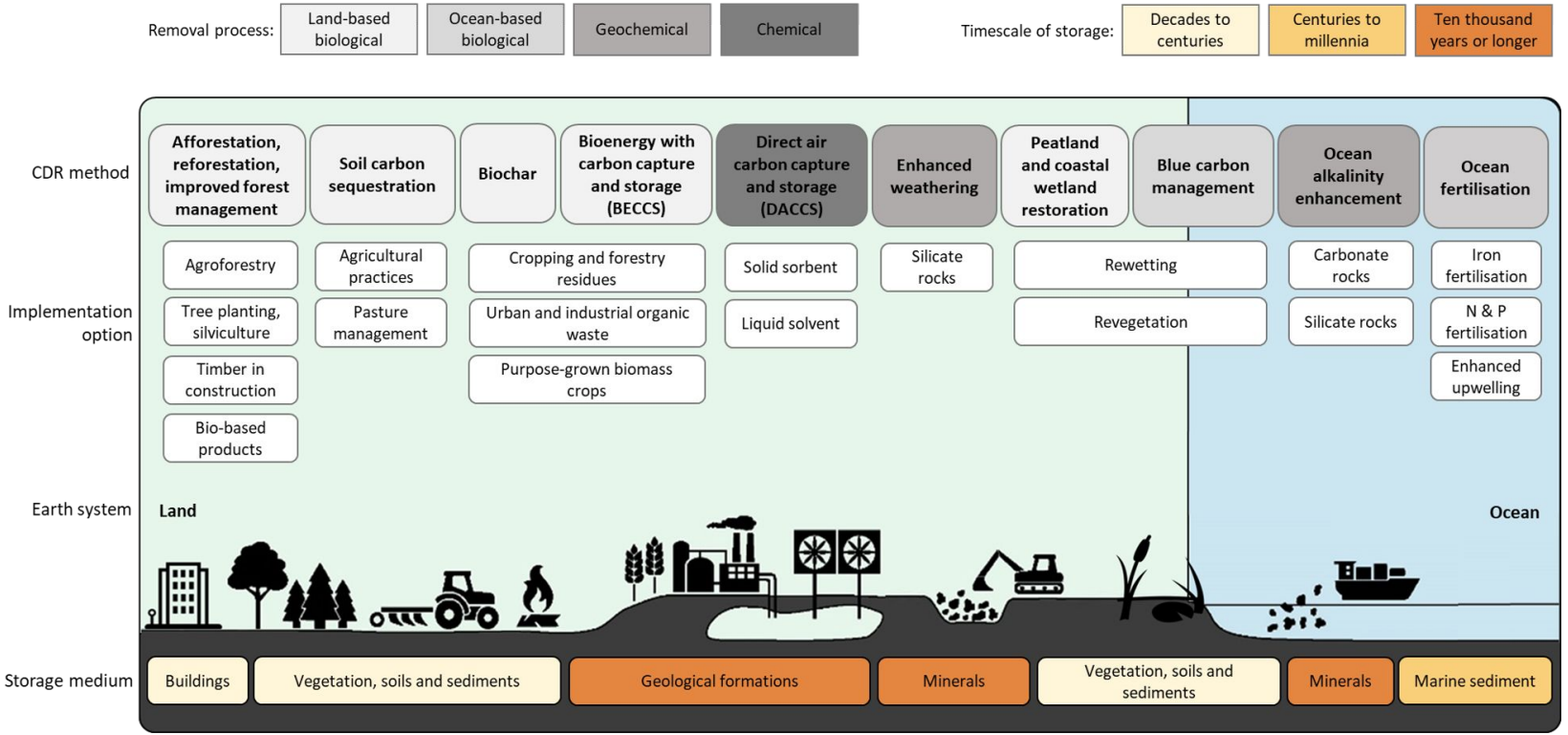
Natural areas have relatively high levels of soil organic carbon because of regenerative and connected processes.

Urban areas have relatively low levels of carbon because of:

- Clearing
- Drainage
- Development
- Paving
- Management



What is being done elsewhere



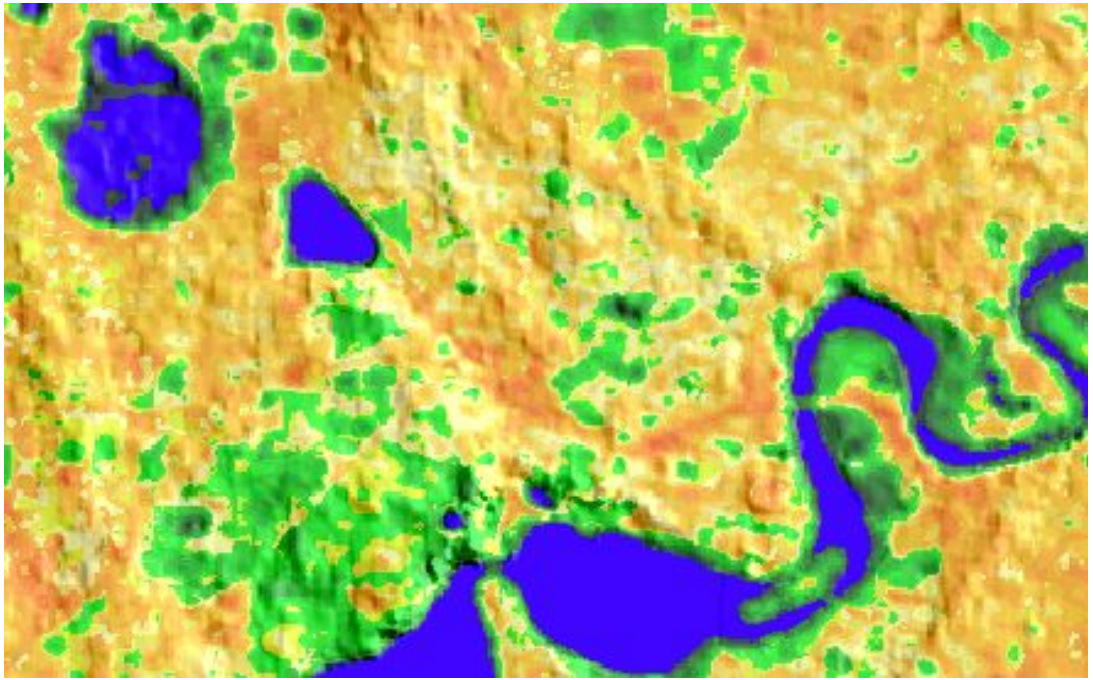
Types of soil organic carbon

- Charcoal/biochar i.e. resistant carbon lasts in the soil for 100’s/1000’s of years
- Compost i.e. humus. Can take 10’s to 100’s of years to degrade.
- Fresh or decomposing organisms including plant and animal matter, microbes i.e. particulate carbon. Can persist for 2 to 50 years

Consequences

- Poorly structured soil
- Low water holding capacity
- Increased water use
- Low fertility
- Low biological activity
- Poor plant growth
- Increased runoff / flooding
- Hotter areas
- Increasingly high levels of inputs required e.g. water, energy, soil amendments plus costs

Urban areas are significant sources of carbon emissions as well as carbon for sequestration.



Turning it around by using a regenerative / circular approach

Refuse

Replace

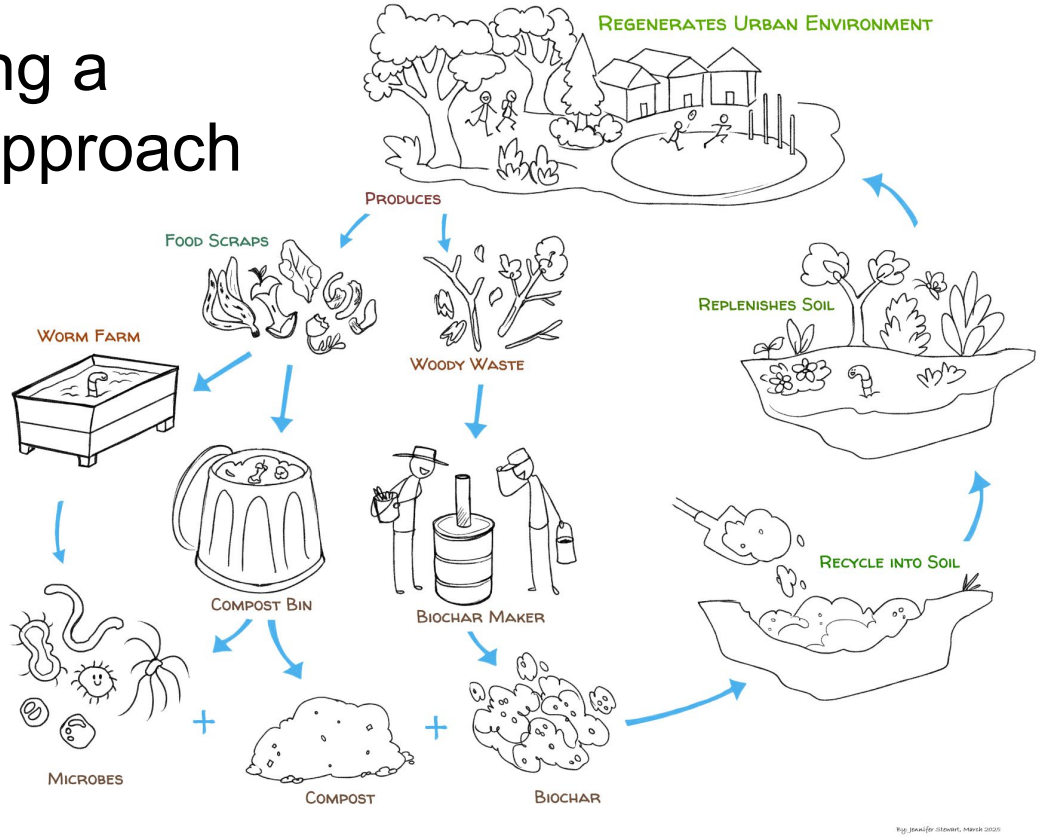
Reduce

Recycle

Reuse

Regenerate

Regenerative urbanism



Benefits

- Carbon is circulated onsite
- Reduced costs
- Cooler living environment
- Healthier and happier community