



SEEA and climate change - overview

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Content

- Data requirements for climate change policies
- SEEA CF versus SEEA EA
- Data from the SEEA CF
- Data from the SEEA EA

Climate change policies



Mitigation

- Monitoring: reduction carbon emissions economic activities
- Carbon sequestration in biomass
- Policy instruments (taxes, subsidies etc.)
- Who is paying for mitigation measures



Adaptation

- Monitoring: impacts of climate change
- Policy instruments
- Who is paying for adaptation measures



SEEA Central Framework and SEEA Ecosystem Accounting

Individual environmental assets & resources:

Timber
Water
Soil
Fish



Ecosystems: Biotic and abiotic elements functioning together:



Forests
Lakes
Cropland
Wetlands

SEEA Central Framework (SEEA_CF) starts with economy and links to physical information on natural assets, flows and residuals



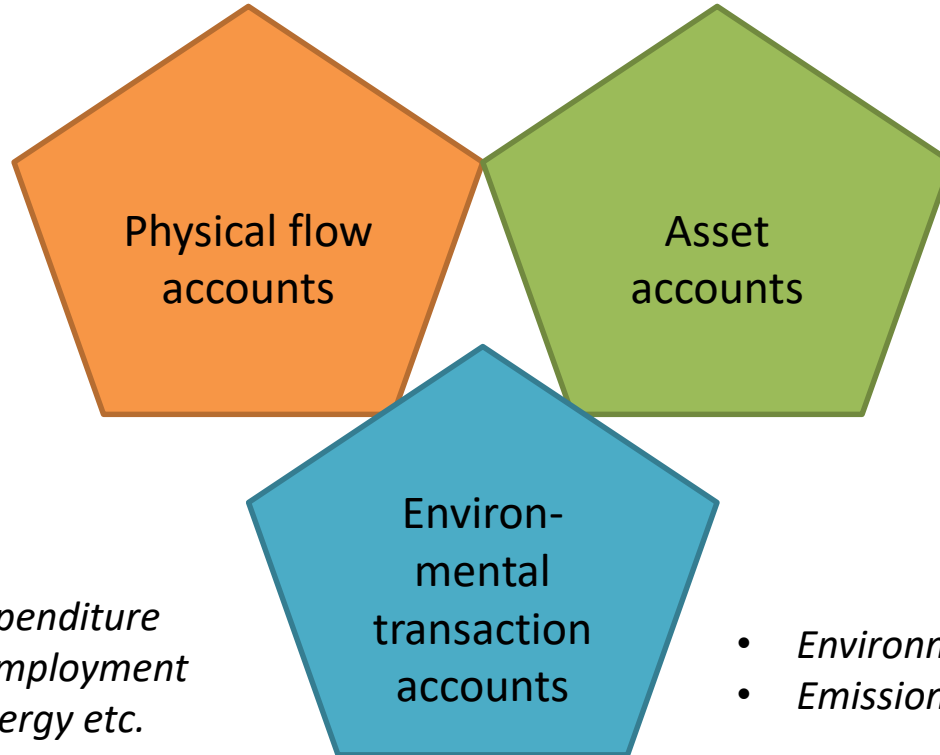
SEEA Experimental Ecosystem Accounting (SEEA-EEA) starts with ecosystems and links their services to economic and other human activity



Together, they provide the foundation for measuring the relationship between the environment, and economic and other human activity

Climate change and SEEA CF

- *Greenhousegas emissions, energy use by industry*
- *Carbon footprint*



- *Energy resources*
- *Timber resources*

- *Mitigation expenditure*
- *Production, employment renewable energy etc.*

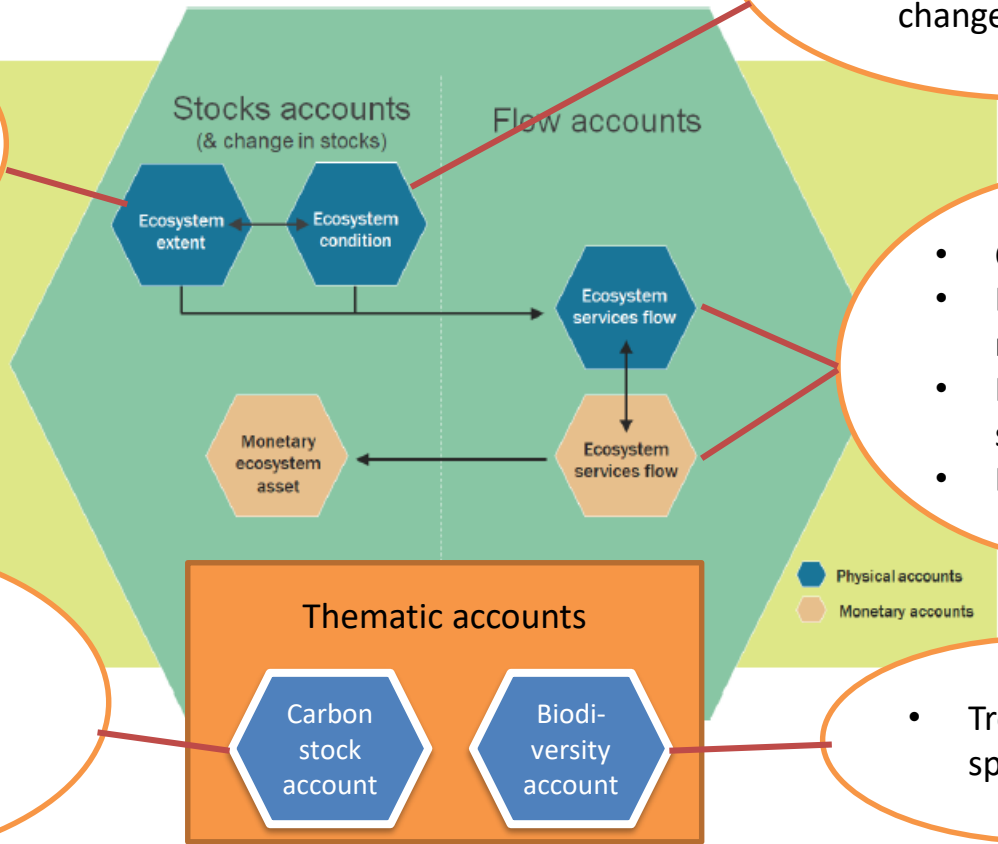
- *Environmental subsidies, taxes*
- *Emission permits*



Climate change and SEEA EA

- Carbon stores in ecosystems
- Impact of climate change on ecosystem

Managed and unmanaged conversions of ecosystem types



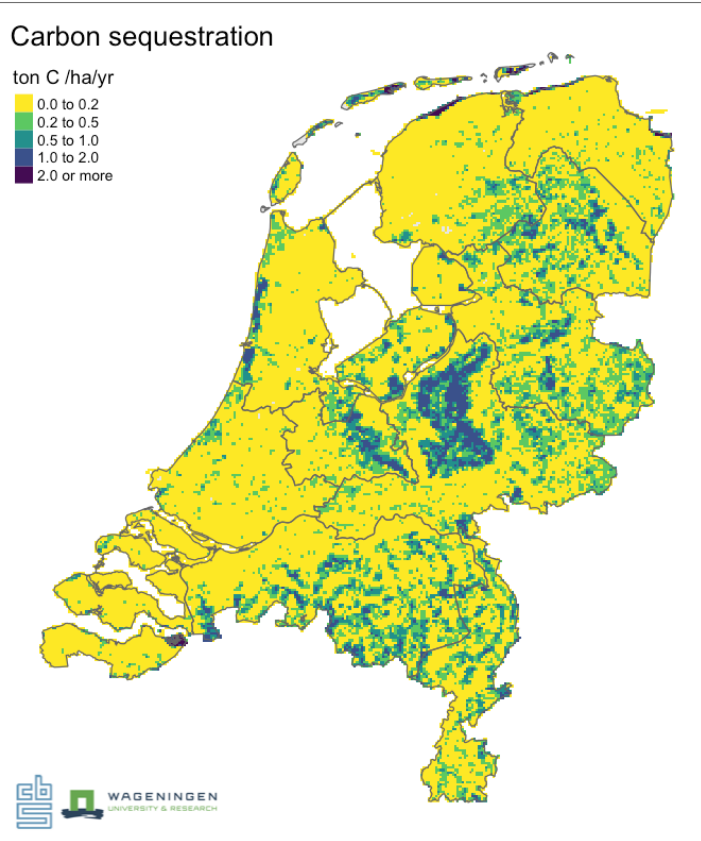
- Carbon retention
- Local climate regulation
- Flood mitigation services
- Etc.

- Carbon sequestration
- Carbon emissions
- Net carbon balance

- Trends in species



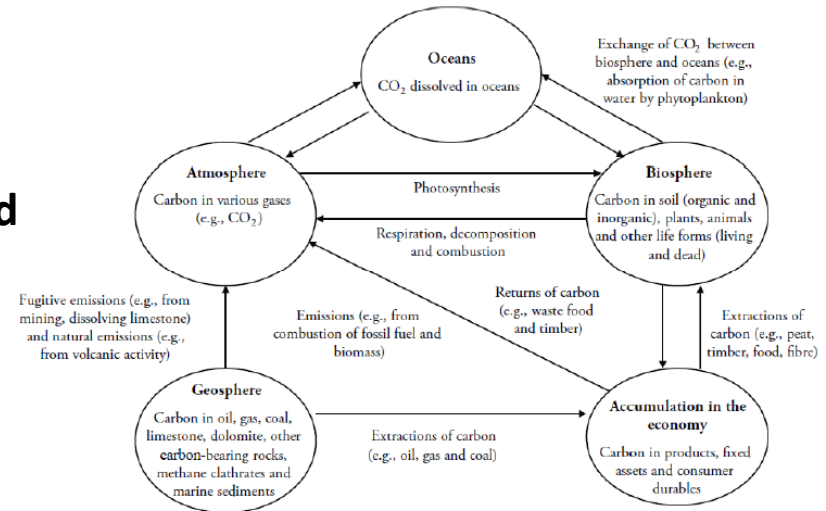
Example: Carbon sequestration in biomass and soil (physical)



- Regulating service
- Biomass (vegetation) takes up carbon
- Carbon sequestration avoids damage due to climate change in the future
- 975 kton carbon per year is sequestered in NL
- Mostly contributed by forest and meadows, but tidal salt marshes have highest sequestration rates

Carbon stock account

- **Overview of all relevant carbon stocks and flows**
- Comprehensive: Geocarbon, Biocarbon, Carbon in the economy, Carbon in the atmosphere
- For biocarbon **spatially explicit data**



Uses of the account:

- Investigate the depletion of carbon stocks and the resulting CO₂ emissions due to conversion of natural ecosystems
- Prioritize use of land for restoration of biological carbon stocks through reforestation, afforestation, revegetation, restoration and improved land management
- Identify land uses that result in carbon removal and storage

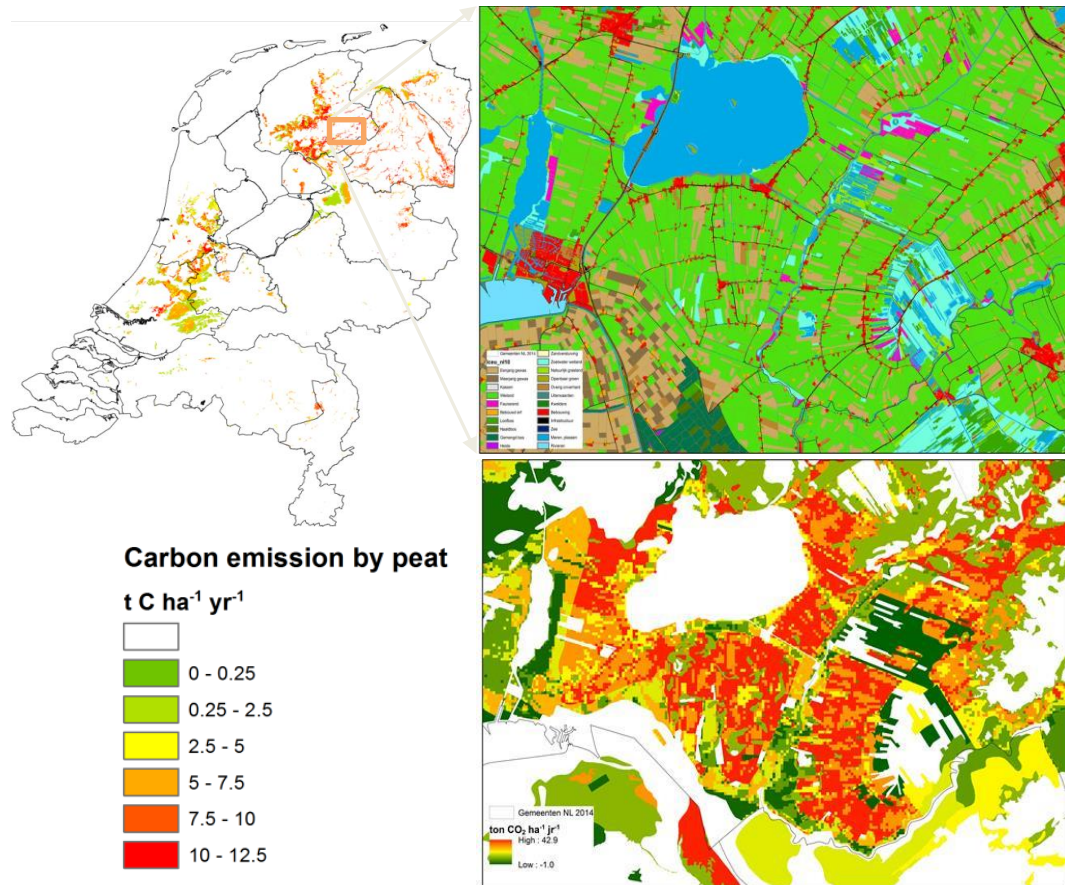


Carbon stock account

	Geocarbon					Biocarbon			Carbon in the economy		Carbon in the seas	Carbon in the atmosphere	Total
	Oil	Gas	Coal	Limestone and marl	Other	Terrestrial	Freshwaters and saline wetlands	Marine	Inventories Fixed assets, consumer durables	Waste	Total	Total	Total
Opening stock													
Additions to stock													
Natural expansion													
Managed expansion													
Discoveries													
Upwards reappraisals													
Reclassifications													
Imports													
Reductions in stock													
Natural contraction													
Managed contraction													
Downwards reappraisals													
Reclassifications													
Exports													
Net carbon balance													
Closing stock													



Example: Dutch Carbon account, emissions from peatlands



- Total CO₂ emissions from peatlands : 7 million ton CO₂ per year
- Accounts are the basis for the analysis of policy measures

Thank you for your attention!

