

Spatially explicit approaches for LULUCF in the Netherlands

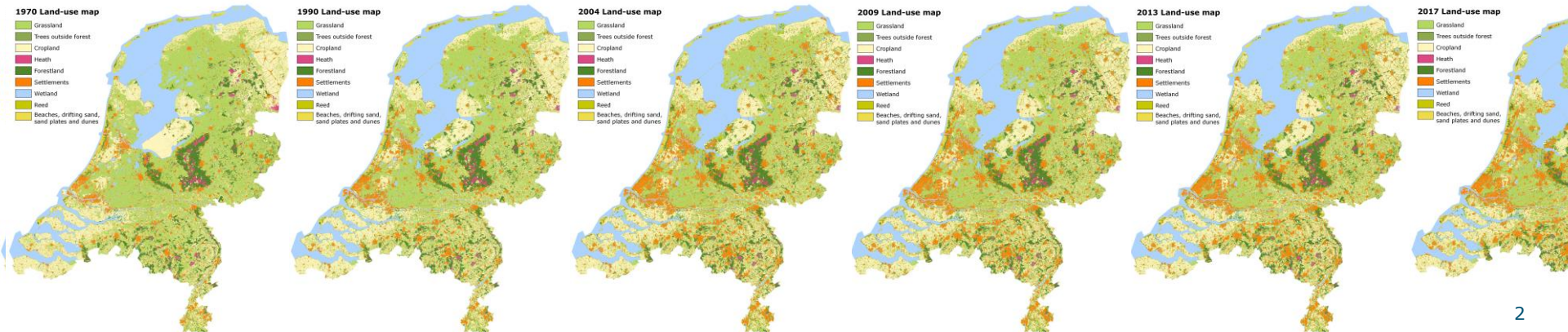
Looking for ways to improve these to align with other policy-relevant reporting

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Current approach

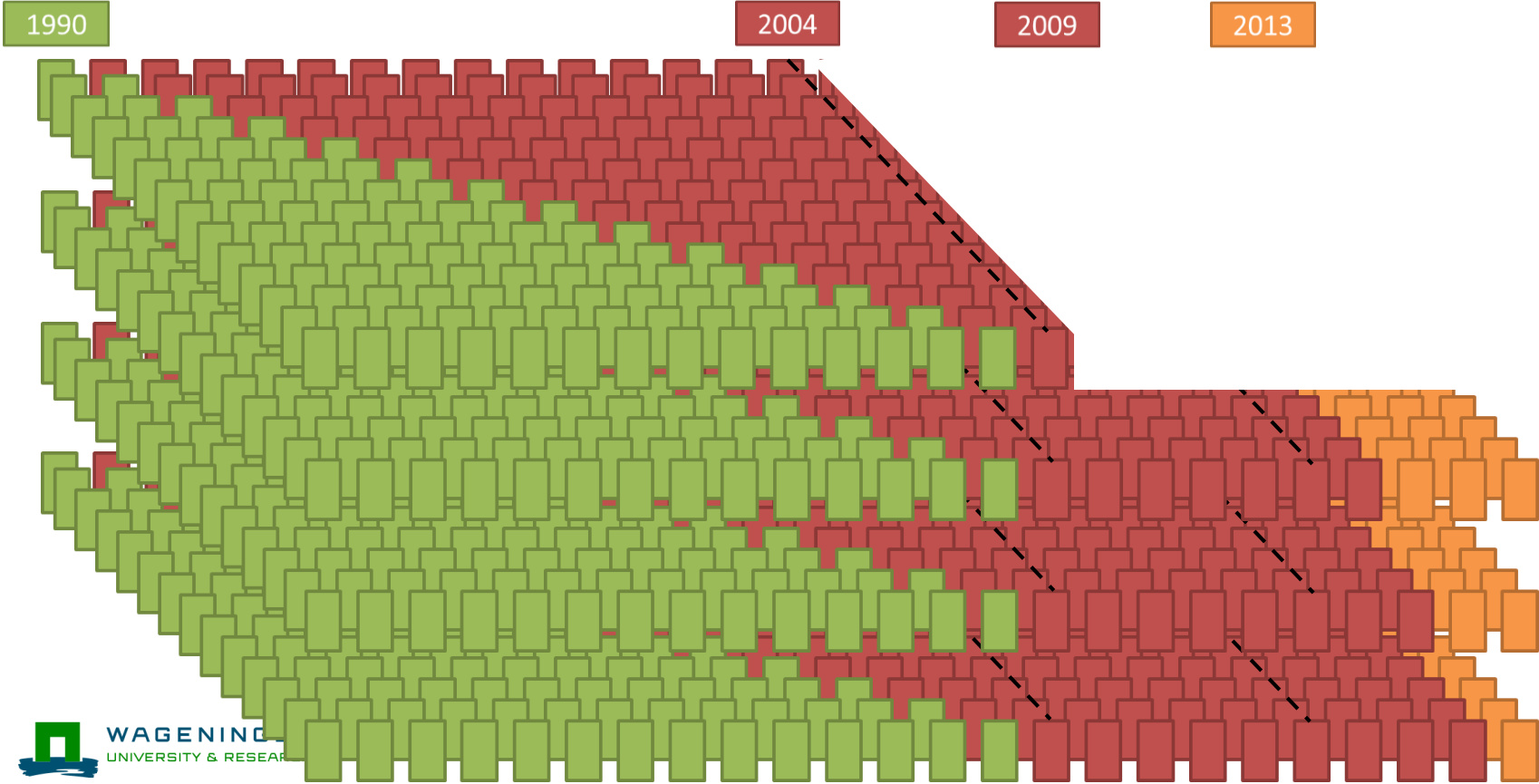
- Spatially explicit input information on activity data
 - Approach 3, wall to wall methods
 - Land-use maps: 1970, 1990, 2004, 2009, 2013, 2017, 2021



Current approach

- Spatially explicit input information on activity data
 - Approach 3, wall to wall methods
 - Land-use maps: 1970, 1990, 2004, 2009, 2013, 2017, 2021
 - Soil maps for 1977 and 2014 and new updates upcoming
 - We are implementing a methodology using information from LPIS and the Farm Accountancy Data Network (FADN) to include cropland and grassland management practices on mineral soils

LU-change matrix to LU-change trajectories



Spatially explicit information on EF – Forest

NFI 7 plots Netherlands

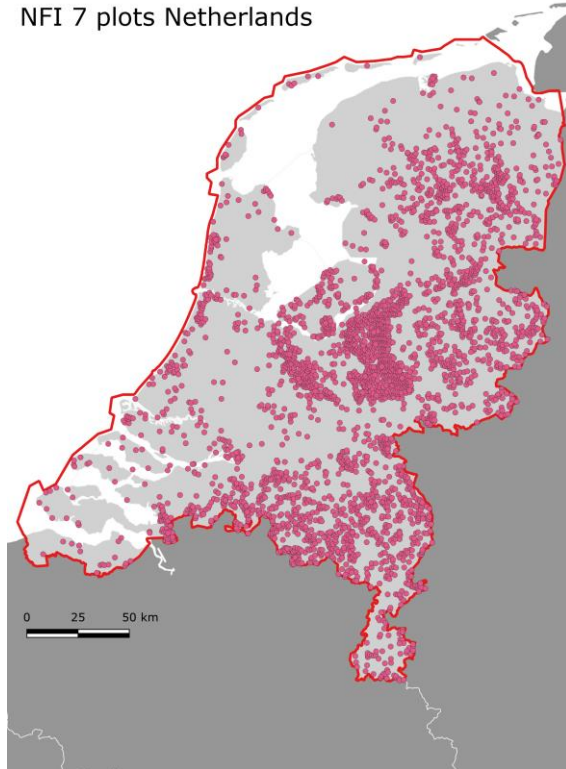
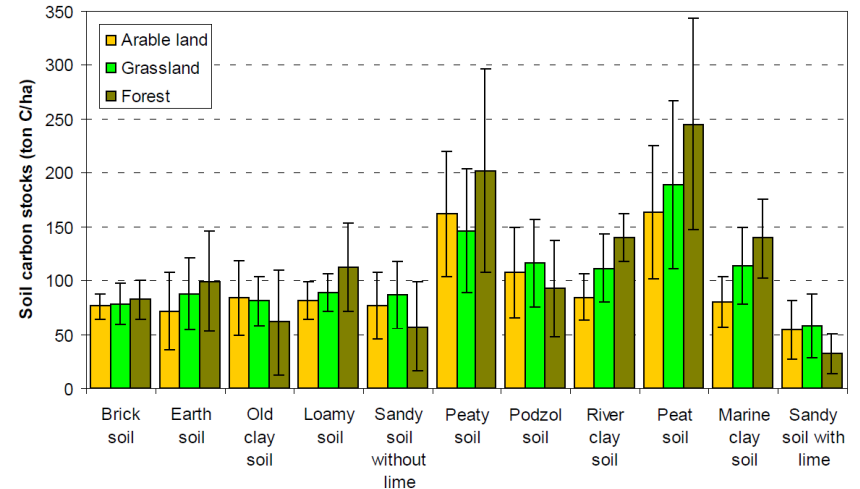
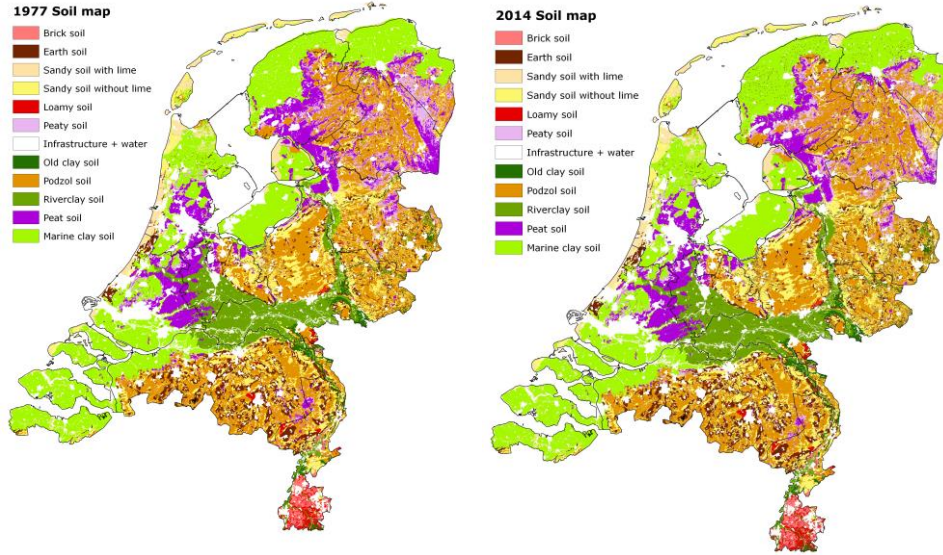


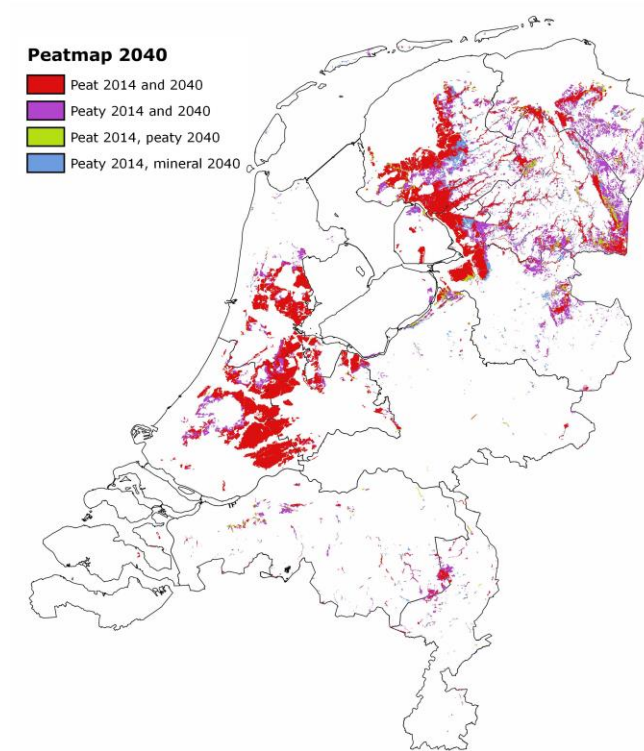
Table 4.1 Per NFI inventory, its reference year, average Growing stock (GS; $m^3 ha^{-1}$), aboveground biomass (AGB; tonnes ha^{-1}), BCEF (tonne d.m. per m^3 stemwood volume), belowground biomass (BGB; tonnes ha^{-1}), root to shoot ratio (R), share of conifer biomass in the total forest biomass, mass (tonnes ha^{-1}) of standing deadwood (DWs) and lying deadwood (DWI). In the HOSP inventory all dead wood was recorded as one value without differentiating between standing and lying dead wood.

NFI	Year	GS	AGB	BCEF	BGB	R	DW Biomass		
							Share Conifers	DWs	DWI
HOSP	1990	158	112.7	0.713	24.3	0.22	0.51	0.84	
NFI-5	2003	199	143.2	0.721	30.6	0.21	0.50	1.35	1.49
NFI-6	2012	217	161.9	0.744	33.8	0.21	0.45	1.93	1.89
NFI-7	2021	229	176.6	0.773	36.3	0.21	0.41	2.99	2.66

Spatially explicit information on EF - soils



Spatially explicit information on EF - soils

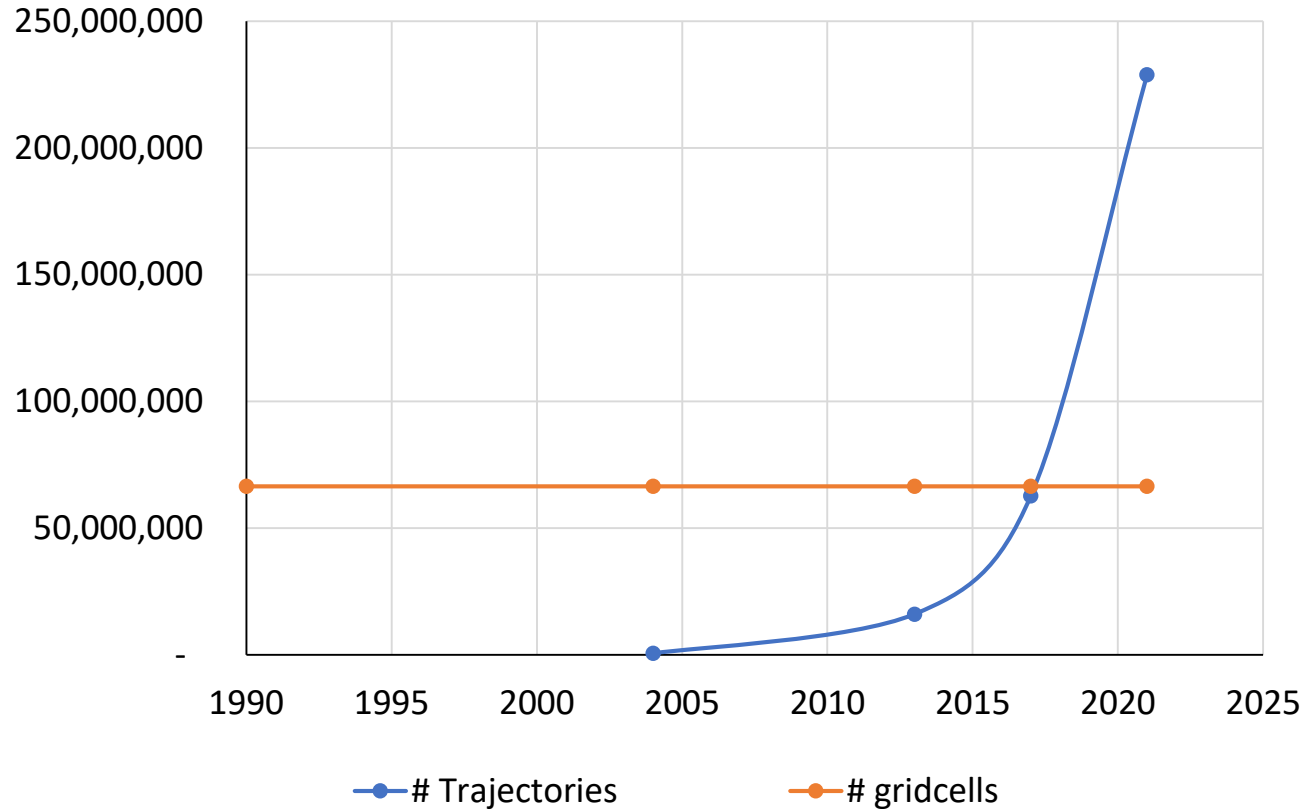


Current approach

- Why did we originally choose this approach:
 - Simplification, keeping number of trajectories to calculate in the bookkeeping model manageable
 - Consistent time series, integration of uncertainty on moment of changes over time
 - Allows national scale reporting at higher Tier levels

Current approach

■ But:



Current approach

- Uses spatially explicit input data, but the outputs are not spatially explicit anymore, while
 - Insights in the (spatial) relations with other policies become more and more important to inform the policy processes in a more integrated way
 - Better alignment with reporting on other policies is needed
 - Mitigation targets within our national climate agreement are partly divided to sectors, local authorities and other actors who need information on their performance at different sub-national scales

Towards a future spatially explicit approach

- Looking for ways to better utilise the spatially explicit information available
- Move towards a grid based approach (calculations per gridcell) and annual updates of LU information
- But still many questions
 - Eg, how to deal with the uncertainty in the actual year of transitions of gridcells in the historic period (without annual maps)?
 - Random year
 - Create intermediate maps using LU change models
 - Apply a rate per gridcell
 - Other?

Thank you

Looking forward to exchange ideas and share experiences with others!

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