

# Reporting method of the Dutch LULUCF sector

The current methodology and future steps

8-10-2024, Sven van Baren

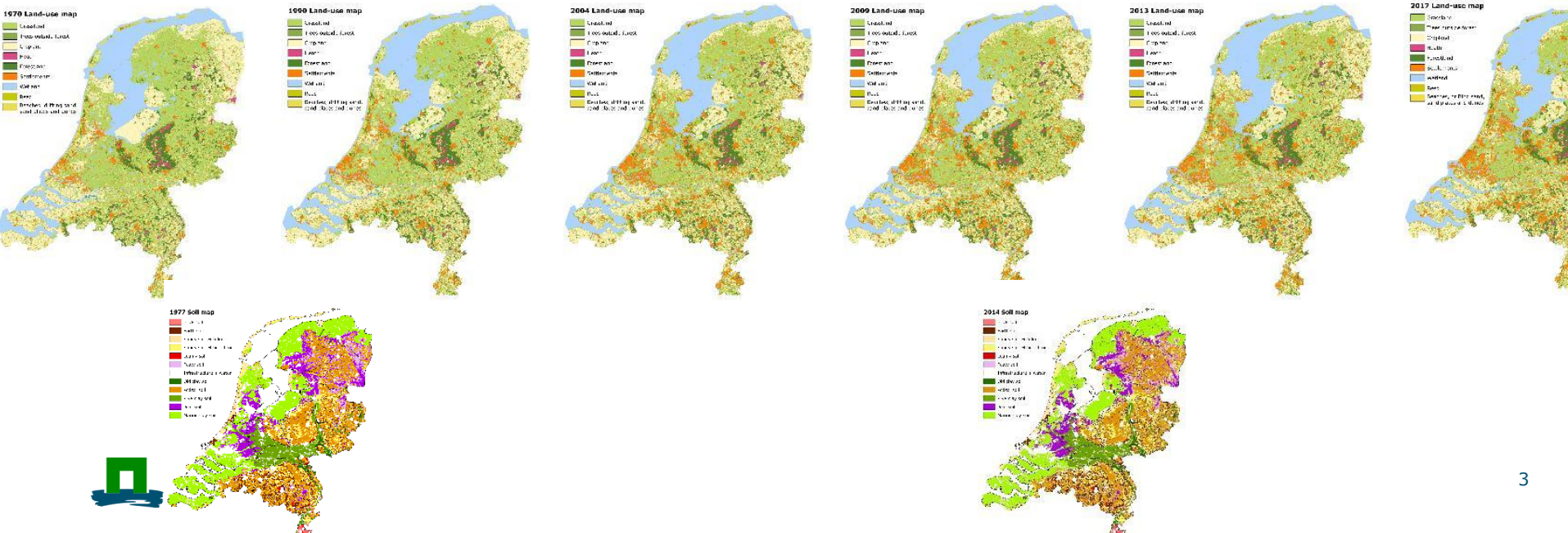


# Contents

- Current methodology
- Considerations on use of EO
- Challenges

# Activity data

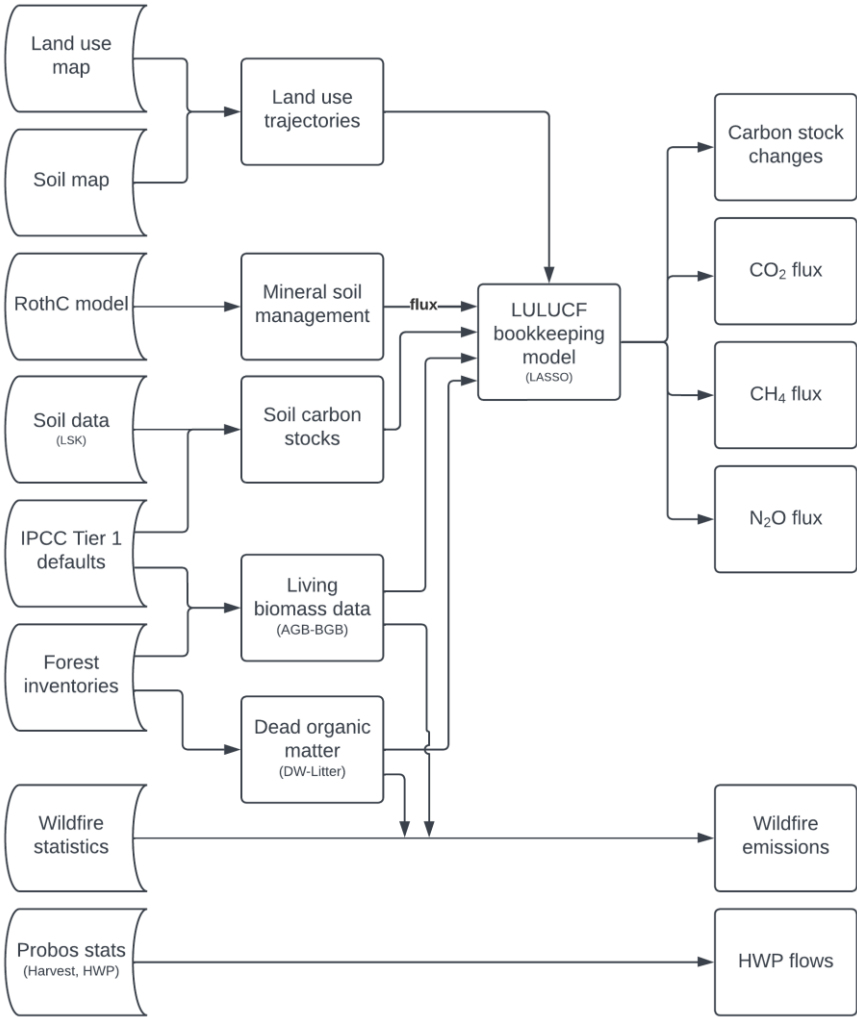
- Activity data (land use changes) → maps (1970 – 2021)
- Soil maps 1977 and 2014



# Land use en soil trajectories

LU1970	LU1990	LU2004	LU2009	LU2013	LU2017	LU2021	LU2023	SOIL1970	SOIL1990	SOIL2014	SOIL2023	Area ha
5	5	7	7	7	4	5	5	9	9	9	9	0.125
2	2	2	2	2	2	2	8	11	11	11	11	2.07574
9	9	9	3	3	3	3	3	12	12	12	12	1.6875
4	4	2	7	7	2	2	2	5	5	5	5	1.183908
2	2	2	5	2	9	9	9	6	6	6	6	1.047297
6	6	7	7	2	7	7	7	11	11	6	6	0.026507
4	4	2	7	2	2	2	2	2	2	2	2	21.09271

# Flowchart



# Emission factors

- Specified per LU and soil combination
- Country wide averages
  - Soil
  - Biomass
  - Other fluxes

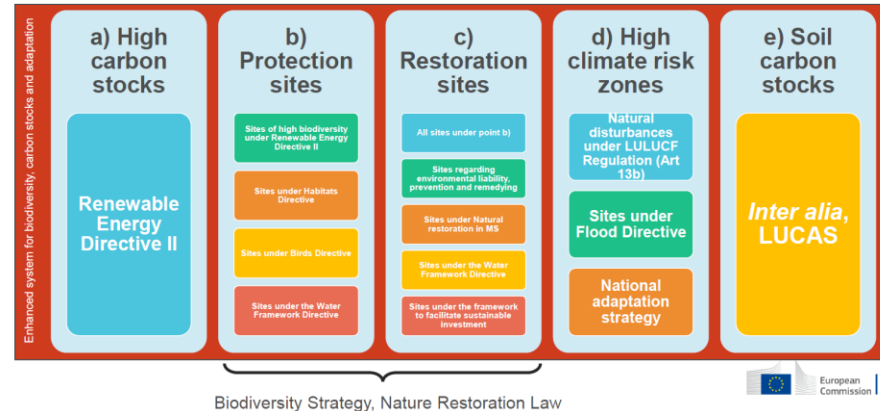
# Lasso indicators

Enum Constant	Descr
ABOVE_GROUND_BIOMASS_STOCK	
BELOW_GROUND_BIOMASS_STOCK	
BIOMASS_GAIN	
BIOMASS_GAIN_ABOVEGROUND	
BIOMASS_GAIN_BELOWGROUND	
BIOMASS_LOSS	
BIOMASS_LOSS_ABOVEGROUND	
BIOMASS_LOSS_BELOWGROUND	
BIOMASS_STOCK	
DEAD_ORGANIC_MATTERFLUX	
DEAD_WOODFLUX	
DRAINED_ORGANIC_AREA	
LITTERFLUX	
METHANE	
MINERAL_SOILS_AREA	
ORGANIC_SOILS_AREA	
SOIL_CARBON_FLUX_IN_MINERAL_SOILS	
SOIL_CARBON_FLUX_IN_ORGANIC_SOILS	
SOIL_N2O_FLUX_IN_MINERAL_SOILS	
SOIL_N2O_FLUX_IN_ORGANIC_SOILS	
SOIL_NITROGEN_FLUX_IN_MINERAL_SOILS	
SOIL_NITROGEN_FLUX_IN_ORGANIC_SOILS	
TOTAL_AREA	

# Have to take steps

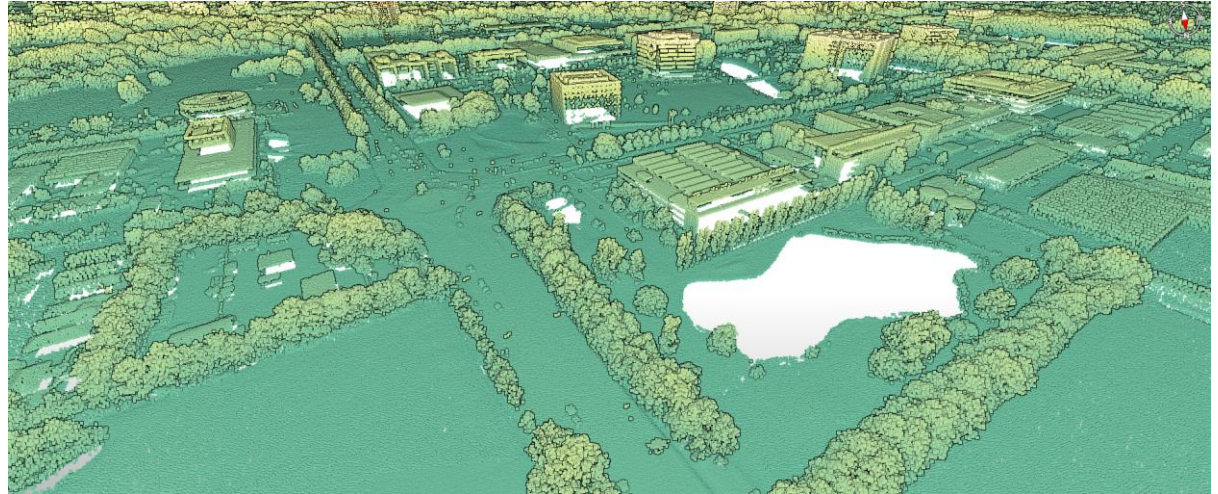
- Go towards geographically explicit calculations
- Because of regulations
  - All of NL Tier 3....
- National questions
- Amount of data
- New model?

## Enhanced LULUCF monitoring system



# Earth observation

- Country-wide airborne lidar dataset  
(NL: Actueel Hoogtebestand Nederland ([AHN](#)))
- Different iterations (2010-2025)
- 10-14 p/m<sup>2</sup>



# Earth observation

- Lots of activity data
- Relate to stocks (biomass)
  - Forests
  - Trees outside forest
  - Woody landscape features

# Challenges

- Not only question of earth observation
- Need new model to process this
  - Grid based?
- Lots of pre-processing to make maps ready
- Other stocks/fluxes than biomass?
- Back to 1990?



# Questions?

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