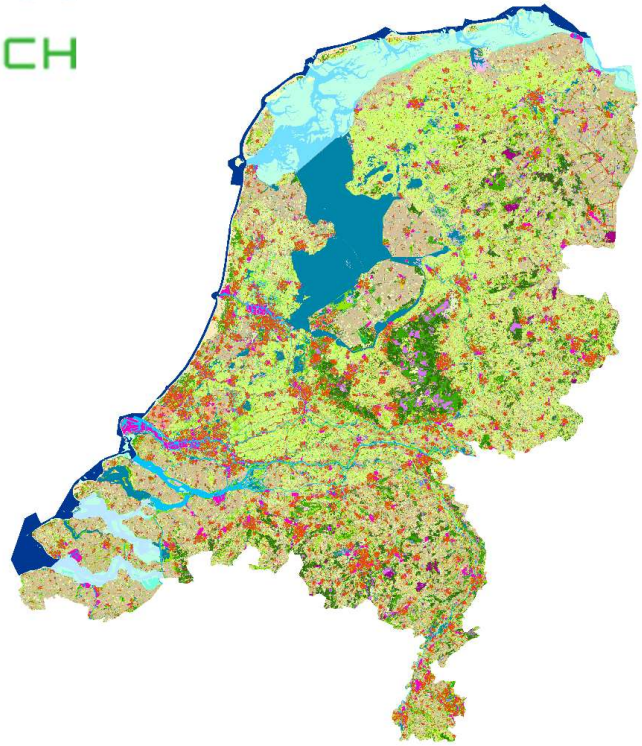
# SEEA-EEA Ecosystem Extent Account for the Netherlands

## Results



[1)]Statistics Netherlands [2)]Wageningen University

# Extent account 2013 – 2015 - 2018

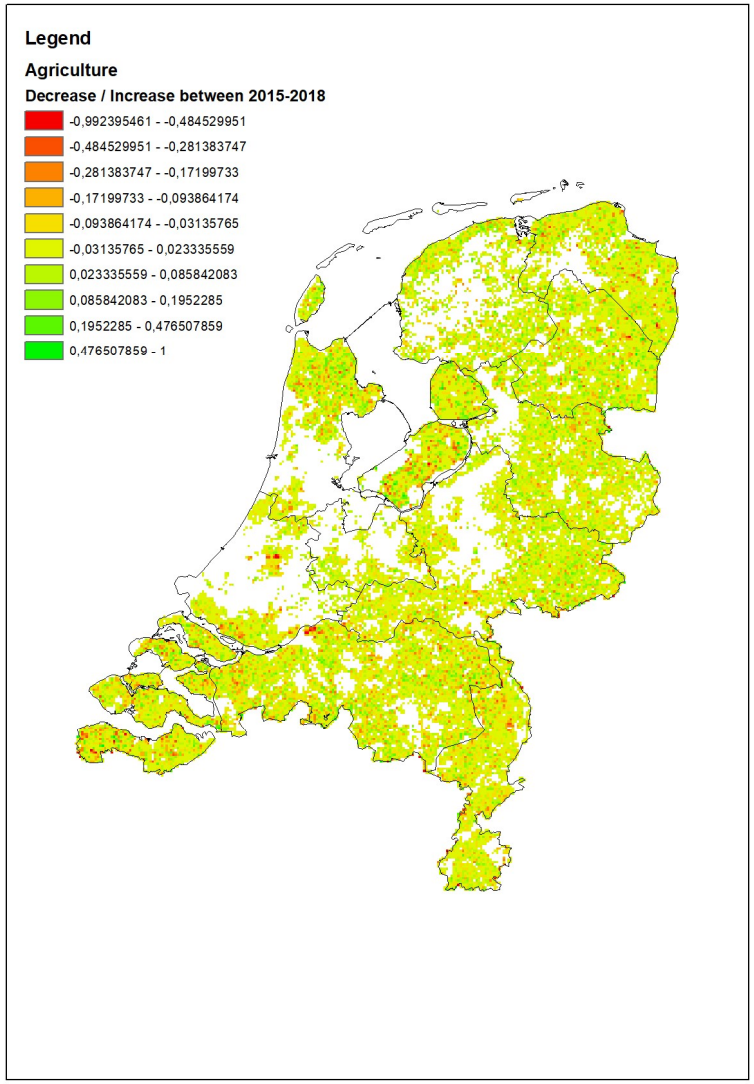
| Unit: km2 | | Forest | Open nature | Wetlands | Dunes and beaches | Water | Cropland | Grassland (agricultural) | Greenhouse horticulture | Other agriculture | Living, Economy and Infrastructure | Public green space and recreation | **TOTAL** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Start extent 2013** | | 3.475 | 1.892 | 612 | 497 | 7.861 | 8.719 | 9.697 | 203 | 61 | 7.363 | 1.161 | 41.542 |
| | Increase | 2% | 12% | 7% | 4% | 1% | 11% | 15% | 6% | 44% | 5% | 9% | 8% |
| | Decrease | 3% | 13% | 5% | 4% | 1% | 15% | 12% | 9% | 73% | 5% | 7% | 8% |
| | Net balance | -1% | -1% | 2% | -1% | 0% | -4% | 4% | -4% | -29% | 0% | 2% | 0% |
| **End extent 2015** | | 3.443 | 1.876 | 625 | 494 | 7.879 | 8.386 | 10.040 | 196 | 43 | 7.372 | 1.188 | 41.542 |

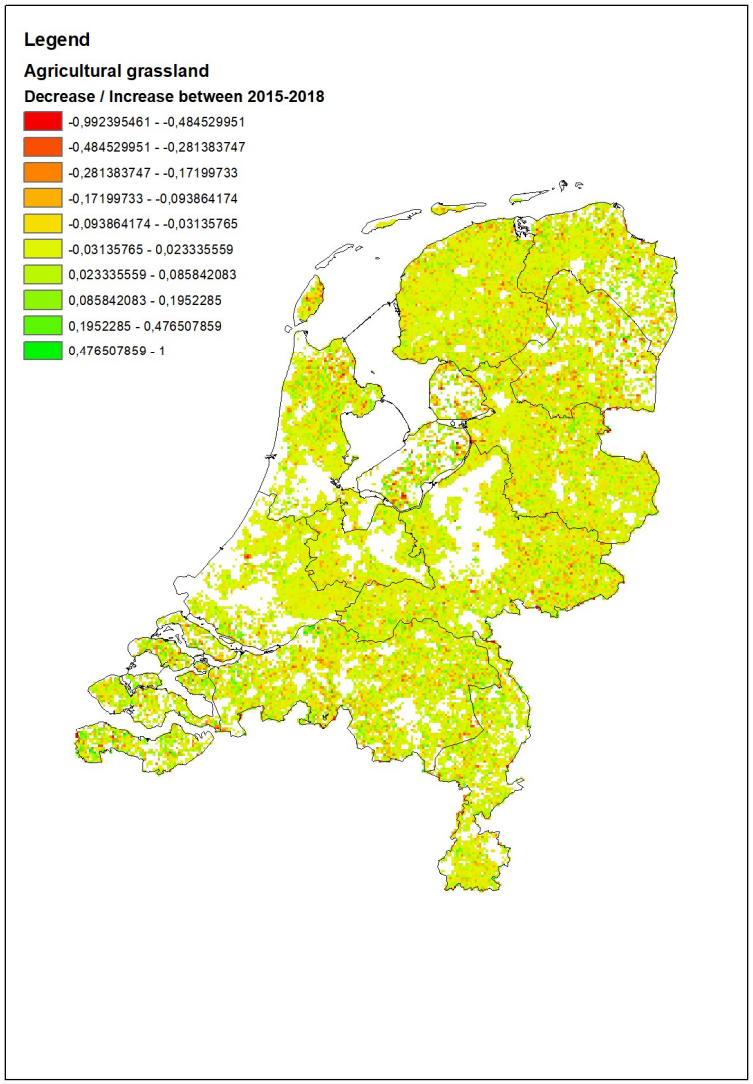
| **Start extent 2015** | | 3.443 | 1.876 | 625 | 494 | 7.877 | 8.385 | 10.040 | 196 | 43 | 7.355 | 1.188 | 41.523 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Increase | 2% | 13% | 7% | 6% | 1% | 15% | 13% | 8% | 78% | 6% | 28% | 9% |
| | Decrease | 5% | 14% | 6% | 6% | 1% | 15% | 15% | 8% | 73% | 7% | 9% | 9% |
| | Net balance | -2% | -1% | 1% | 0% | 0% | 0% | -1% | 0% | 5% | 0% | 20% | 0% |
| **End extent 2018** | | 3.364 | 1.861 | 630 | 496 | 7.880 | 8.404 | 9.903 | 196 | 45 | 7.321 | 1.422 | 41.523 |

# Change matrix

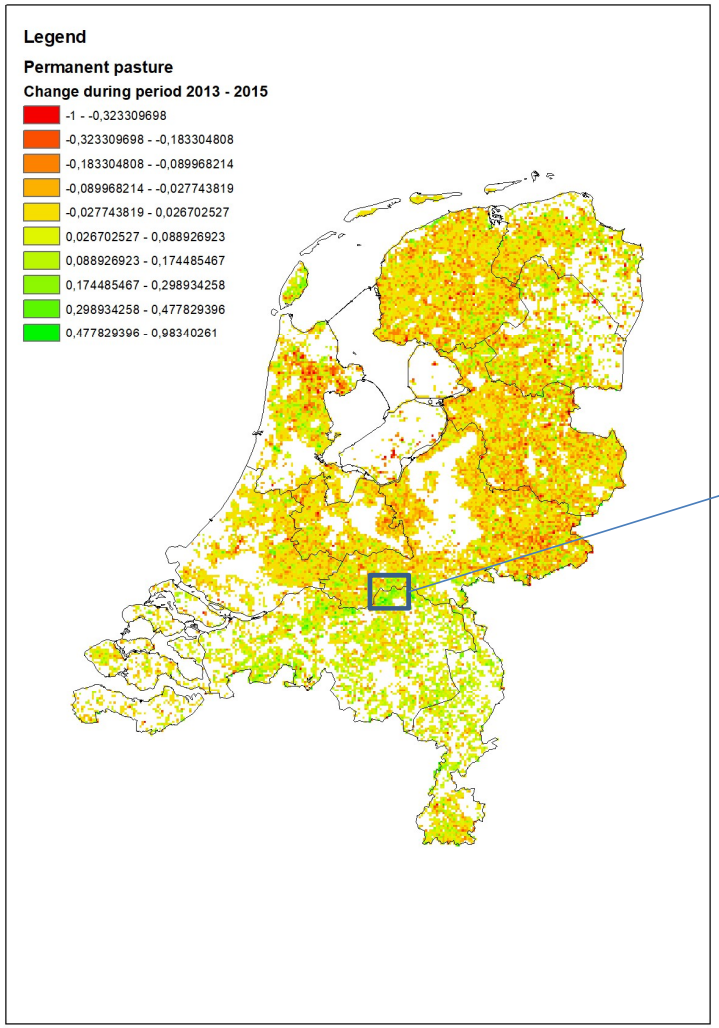
| | | 2018 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unit: km2 | Grassland (agricultural) | Water | Cropland | Living, Economy, Infrastructure | Forest | Open Nature | Public green space, recreation | Wetlands | Dunes, beaches | Greenhouse horticulture | Other Agriculture |
| 2015 | Grassland (agricultural) | 8556 | 7 | 1132 | 187 | 6 | 113 | 24 | 4 | 0 | 2 | 7 |
| | Water | 2 | 7795 | 1 | 40 | 1 | 3 | 11 | 3 | 23 | 0 | 0 |
| | Cropland | 1054 | 6 | 7166 | 82 | 7 | 29 | 9 | 2 | 0 | 8 | 24 |
| | Living, Economy, Infrastructure | 163 | 21 | 44 | 6848 | 24 | 36 | 203 | 6 | 3 | 4 | 1 |
| | Forest | 12 | 2 | 12 | 38 | 3281 | 26 | 64 | 6 | 3 | 0 | 0 |
| | Open Nature | 82 | 26 | 18 | 60 | 21 | 1621 | 22 | 22 | 3 | 0 | 1 |
| | Public green space, recreation | 24 | 2 | 5 | 53 | 12 | 6 | 1084 | 1 | 0 | 0 | 0 |
| | Wetlands | 2 | 6 | 0 | 2 | 7 | 21 | 0 | 586 | 0 | 0 | 0 |
| | Dunes, beaches | 0 | 15 | 0 | 1 | 6 | 4 | 3 | 1 | 464 | 0 | 0 |
| | Greenhouse horticulture | 2 | 0 | 4 | 8 | 0 | 0 | 0 | 0 | 0 | 181 | 0 |
| | Other Agriculture | 6 | 0 | 22 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 11 |

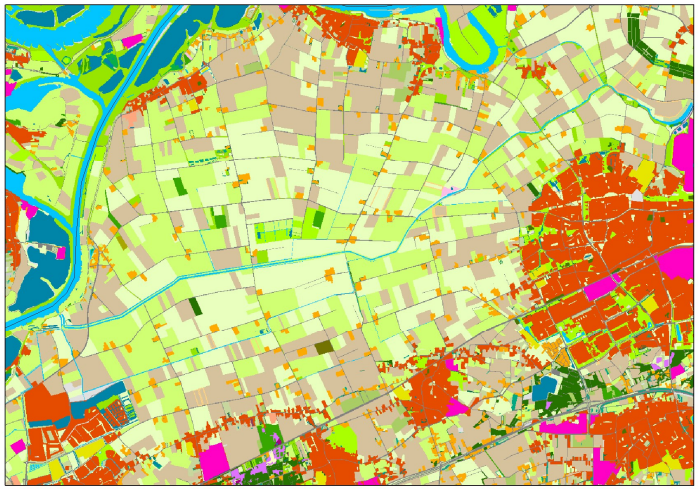
# Changes in agriculture



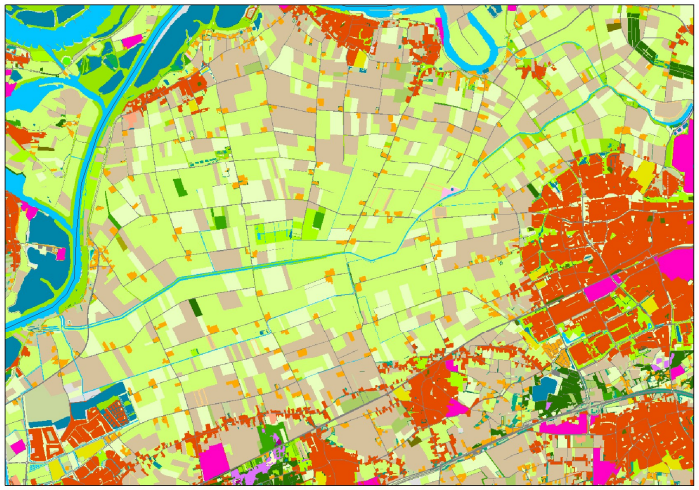



# Changes in permanent grassland



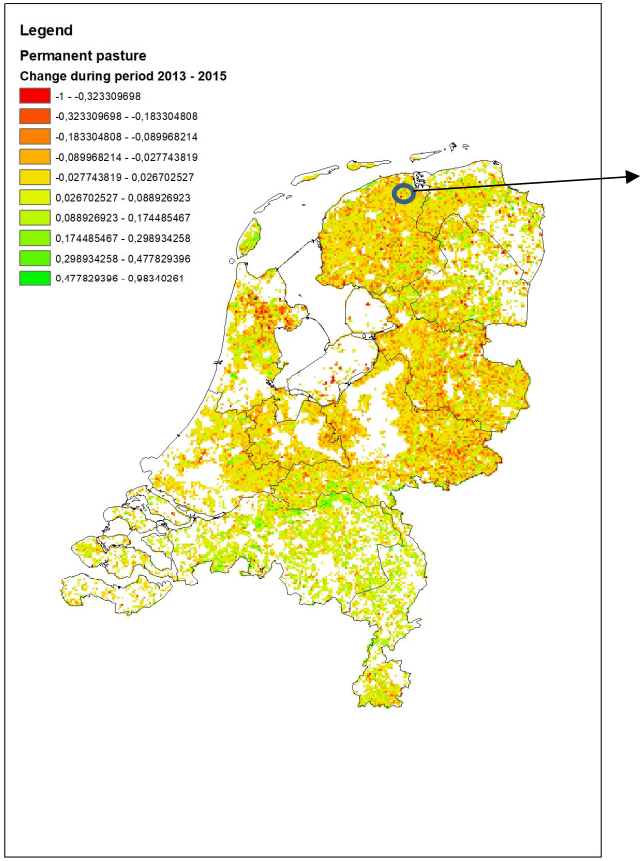



2013



2015

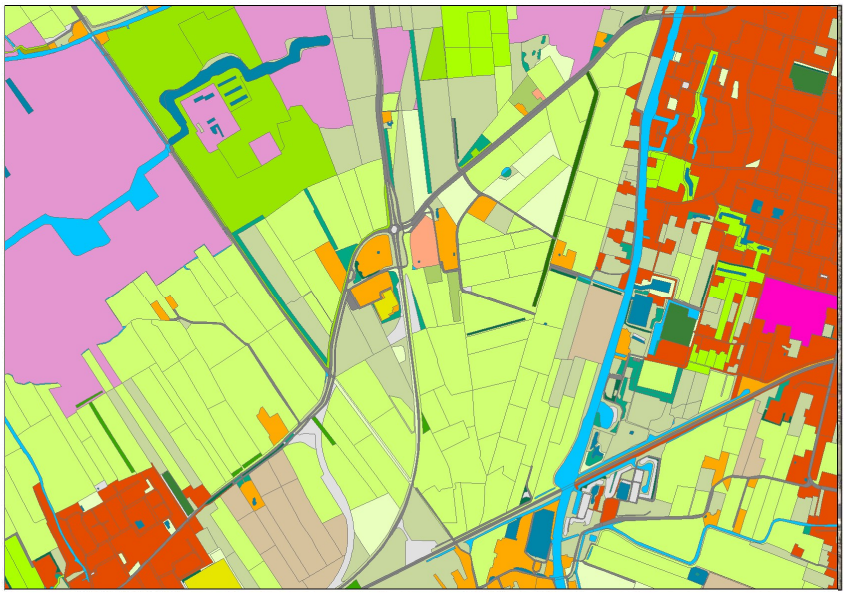
# Example – grassland converted to infrastructure




2018

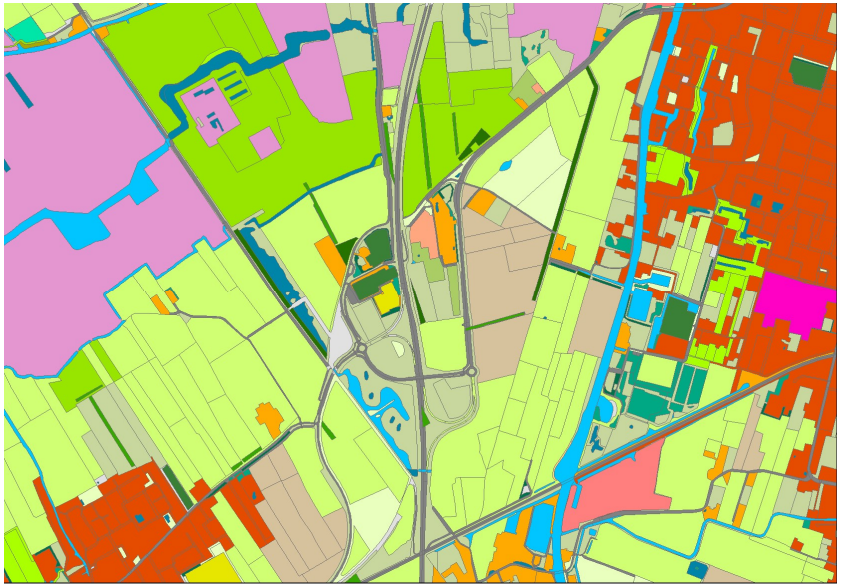

Legend
NL_2018_vector
Natuur
Zandplaat
Strand
Kustduinen
Houtsingel
Stuifzand
Meer, plas
Moerasbos
Waddenzee
Estuarium
Intertidal
Noordzee
Kwelder
Waterloop
Brakwater
Hoogveen
Laagveen
Heide
Natuurbos
Productiebos
Natuurgras
Akkerland_nat
Ruigte
Overig
Zee, overig
Overig terrein
Overig grasland
Overig bos
Overig, anders
Landbouw
Faunarand
Braakliggend
Meerjarig_ext
Meerjarig_reg
Akkerbouw_ext
Pot_Container
Glastuinbouw
Grasland_ext
Akkerbouw_reg
Grasland_tijd
Grasland_blv
Bebouwd
Verblijfsrecreatie
Landschapstuin
Bedrijfsterrein
Built-up (rural)
Built-up (urban)
Grondgebonden
Sportterrein
Groenvoorziening
Plantsoen
Park
Semi-op. groen
Infrastructuur


2013



2015


Changes:
- Permanent grassland- Other grassland
- Other grassland – Natural grassland
- Permanent grassland- Water
- Agricultural land –Built-up area
- Other grassland / built-up area – Recreation



2018

# Challenges

1. Changes in source data do not always reflect real changes
2. Gaps in time series make it harder to interpret the results and reduce noise.
3. Improving the algorithms that construct the map is a time-consuming effort.

# Opportunities

1. Using satellite data to validate land cover changes.
2. Consultation with stakeholders.
3. Adding additional data sources.

# Questions